

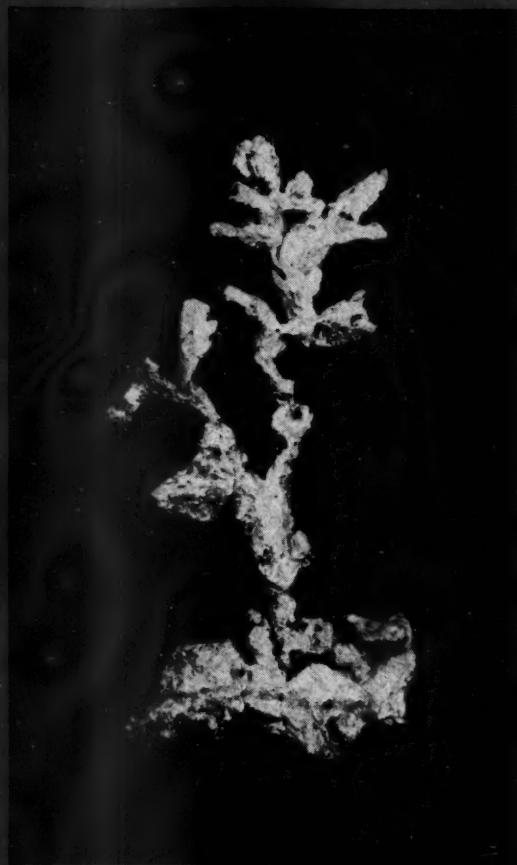
ROCKS AND MINERALS

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MINERALOGY

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Native Silver crystallized group, Calumet, Michigan. Elmer B. Rowley collection, 214 Ridge St., Glens Falls, N. Y.

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MARCH - APRIL, 1955

Whole Number 245

61st LIST OF FINE MINERALS

ZOISITE, Ducktown, Tenn. Xls. in Chalcopryrite. 2x2x2	\$ 2.00
STANNITE, Cornwall, Massive with some Quartz. 2½x2½x1½	2.50
BISMUTHINITE, Cornwall. Acicular xls. in Quartz vug. 1½x1¼	2.00
BREITHAUPTITE, Cobalt, Ont. Solid mass with some Quartz 3½x2½x1	6.00
CINNABAR, Idria. Xld. on both sides of rock slab. 3x2	3.50
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AZURITE, Tsumeb. 1½x1 xl. on matrix. 2½x1½	10.00
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AXINITE, Thum, Saxony. Well xld. with Calcite. 2½x2	3.50
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MALACHITE, Phoenixville, Pa. Radiating in limonitic matrix. 3x2x1½	2.50
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ROCKS and MINERALS

PETER ZODAC, Editor and Publisher
America's Oldest and Most Versatile
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Published Bi-Monthly

OFFICIAL JOURNAL



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ASSOCIATION

WHOLE NO. 245

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March - April 1955

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CHIPS FROM THE QUARRY

Coming Events

April 29, 30, May 1st, 1955: Rock Show and Trade Days, Brawley, Calif. (For information write to Roy Rand, 176 G St., Brawley, Calif.).

April 30 - May 1st, 1955: Long Beach Gem & Mineral Show, National Guard Hdq., 854 E. 7th St., Long Beach, Calif.

May 7 and 8, 1955: Los Angeles Lapidary Society Annual Show, Van Ness Playground Auditorium, 5720-2nd Ave., Los Angeles, Calif.

May 14, 15, 1955: Glendale Gem Festival, Civic Auditorium, 1401 Verdugo Road, Glendale, Calif. Admission free.

May 21-22, 1955. *Gems and Minerals* Show, Grand Junction, Colo.

May 28-30, 1955: All Rockhounds Pow Wow Spring Rock Hunt at Glass Buttes, Oregon. For further information contact Barbara Blood, 1953 Taft Ave., Bremerton, Wash.

June 16-19, 1955: Rocky Mt. Federation Show. Mountain View School, Rawlins, Wyo. General Manager, Ralph E. Platt, Saratoga, Wyo.

JUNE 23-25, 1955: Midwest Federation Convention, Hotel Detroiter, Detroit, Mich.

JULY 8, 9, 10, 1955: International Gem and Mineral Exposition (16th Annual Convention, California Federation of Mineralogical Societies). Civic Auditorium, San Francisco, Calif. Up to May 15th please address all inquiries for space to Ralph Paine, 119 - 28th Ave., San Francisco 21, Calif.

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REPRINTS AVAILABLE

There have been so many requests for reprints lately that the following bit of information may be of value. Reprints can be supplied and at the following rates, approximately:

100 copies	2 pages	\$3.75
100 "	4 "	7.25
100 "	6 "	10.25
100 "	8 "	12.75
100 "	10 "	15.00

All reprints must be ordered in advance, before the articles makes their appearance in print.

SPECIAL NOTICE

The Amateur Lapidary, conducted by Commander Sinkankas, does not appear in this issue, much to our regret. Copy was received in time but at the last minute, as we were going to press, some questionable items needed clarification and it was not possible to contact Commander Sinkankas who was in the process of moving his family from Arlington, Va., to California where he will make his now home. His article, "The Treatment of Cleavable Gemstones" will appear in the next issue. Those who follow his department with keen interest, please be patient. Give Commander Sinkankas a chance to settle down in his now home and then his feature will appear regularly in R & M.

HALITE

By Don Alfredo

322 Linda Vista, Las Cruces, New Mexico

There are probably few people who would travel nearly four hundred miles to obtain a supply of common salt. But that is what Dona Ruth—my wife—and I did not long ago. Our journey, however, was a rockhounding trip, and to rockhounds common salt is known as "halite", and as such it is, from some sources at least, a material more ornamental than useful. This is not to argue against halite's use as "salt." Excepting that it may need to be ground and sifted to make it conveniently useable, and from some sources some refining processes may be advantageous, it is the common table-use condiment familiar to all of us.

For years we had been hearing about salt deposits and salt mines, and of course we had heard of Salt Lake City and its Salt Lake, Utah, and had come to know that its salt was largely of the sodium chloride or "table" variety, but none of these salt sources was within range of our former home in New England. Also, in those days we had little if any realization of the fact that halite may be ornamental. We had read articles which mentioned that microscopic examination of table salt might reveal it to be made up of cube-shaped particles, but we were more or less of the if-we-can't-see-it-with-the-naked-eye-we-don't-want-to-see-it-at-all school.

But after we moved to New Mexico we began to occasionally hear of "Salt Lake." Usually the references were to Salt Lake, Utah, but occasionally the remark pertained to a much smaller puddle, near Quemado, New Mexico, and (I understand) officially known as Zuni Salt Lake, but more popularly and conveniently spoken of merely as "Salt Lake."

We had generally paid little attention to the mentionings of the "local" Salt Lake. They usually were merely to the effect that such a place existed and were not made by persons who had visited it. Then, as rockhounds, we learned that halite crystals grew to larger than microscopic size and were privileged to

view some samples from unspecified sources. Later came acquaintance with persons who had visited Salt Lake and had specimens of its excellent crystalline halite for display. As has often happened in our mineral-collecting experience on first seeing a high grade specimen of a somewhat familiar material, we were impressed and from that time a visit to Salt Lake was one of our fond hopes.

Salt Lake may be described as one of the more readily accessible of New Mexico's little publicized natural geological attractions. Situated about 21 miles northwest from Quemado, which is on a transcontinental highway, the only hazard is that which comes from being "so alone" on a dirt road without indications as to which branch to take of the several forks. For those who may wish to make a brief Salt Lake detour from U.S. 60, I will say that the road to Salt Lake takes off from the paved highway at a point slightly more than a mile west of Quemado and is adequately marked "Salt Lake." On this road, one should take the straightest possible route at each fork. The lake lies in a depression and is visible only briefly from the main road, so one should keep a sharp lookout to the left from about 20 miles on this road. Small groups of visitors are welcome at the lake, but a mass assault by hundreds of lustful halite seekers might prove somewhat overwhelming to management and ownership. I. N. Curtis, owner of the lake, is known to all residents of Quemado and locating him in town is an easy matter. When he is not in town he is usually at the lake, where the on-the-spot manager is Jose Sedillo, whose friendly smile, with or without halite, would be adequate recompense for the hot and dusty 20 miles from the highway. If Jose is not in the vicinity of the "factory", Mrs. Sedillo (with the same sort of smile) is also an expert guide; either may be found at their rock-wall home to the east of the "factory."

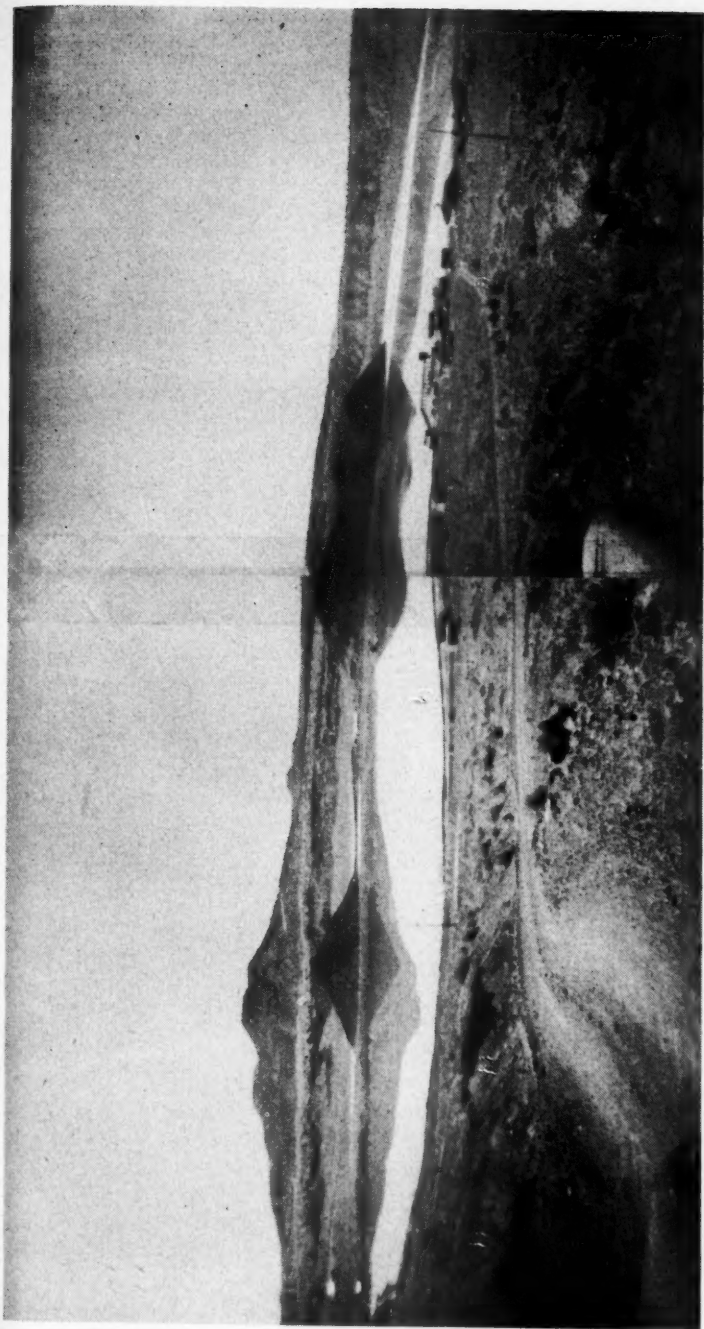
The "factory" doesn't cut much of a figure. It consists principally of a "mine railway"—a small-rail narrow-gage track which runs from a large bin out into the lake, a similarly arranged belt conveyor and its supporting structure, a number of bins, rock and frame storage and shop structures. Several scow-type boats are moored at the shore line and there is a scattering of small items of shovel and dredge type equipment, all iron parts of which are severely rusted due to the corrosive action of the heavily salt-charged atmosphere. Excepting during the hotter part of the summer when evaporation is at a maximum, the harvesting equipment is generally idle. What little harvesting is done at other times is accomplished by the simple procedure of wading into the lake and shoveling the salt off the bottom into burlap bag or other suitable container. Harvest season operations are essentially the same, except that the salt is shovelled onto the conveyor belt or into the mine car, either of which convey it to the bins on shore.

Accurate figures as to the size of the lake were not available and are probably not important. Roughly, it is perhaps a mile long (east-west) and slightly less in width. Its depth varies, both as to location and as to season (or, more correctly, as to extent of rainfall vs. aridity) but mid-spring, 1954, it was about 12 inches, which can probably be taken as a fair

general average figure. The salinity is always very close to the saturation point. Rains—when and if—dilute the lake and slowly dissolve the accumulated salt, but not to an appreciable degree. Come the months of usual dryness, evaporation reaches a maximum and as it persists the salt crystallizes out so that the entire water-body assumes the characteristics of a mush. That in prolonged drouth the mass surface may become bone dry is believable. The extent to which this drying and crystallization progresses is dependent on the degree of activity of the salt springs which feed the lake. The growth of large, well formed crystals takes place best when individuals are not subject to interference by other crystals or groups, that is, when the lake water is salt-saturated, but not to the extent that it is all crystallizing at once. As in other materials, the best crystals are those which grow slowly and without interference. With conditions right, a dead weed, pieces of string specially fashioned article of cloth, animal bone or skull, properly suspended so as to lie neither on the lake bottom nor on the water surfaces, in a few days becomes completely covered with fine crystals of up to more than one inch dimension. If the object is not submerged, but is subject to the splash of wavelets, the salt coating is compact and amorphous; if it lies on the lake bottom, the coating may be crystalline, but the crystals are generally small



Salt Harvesting Equipment, Belt conveyor (left). Railway (right).



Panorama of Salt Lake.

and so intermingled as to lack individuality. A number of examples of "salt crystal art"—stars, crosses, even "Merry Christmas" in script—are usually on view at the lake or in Quemado business establishments.

At the edge of the lake are two piles of volcanic "ash". Of these, the easternmost is a well-shaped cone; the westernmost is a group of semi-cones, forming a ridge, the western extremity of which is a well-shaped cone in which is a steep sided, circular crater at the bottom of which is another salt lake. I refer to this structure as the "cone crater". There ap-

pears to be some slight difference in the level of this cone crater lake and that in the adjoining main body of salt lake, and José Sedillo believes there may be some slight difference in the salinity of the two. We climbed to the top of this cone crater, and as we started down the inner slope several wild ducks, which had been swimming in "Cone Crater Lake" took flight. The depth and side-steepness of the crater is such that the ducks could not fly straight up and out to freedom—a helical course, several times around the inner wall of the crater, was necessary. José states that he has frequently found ducks which

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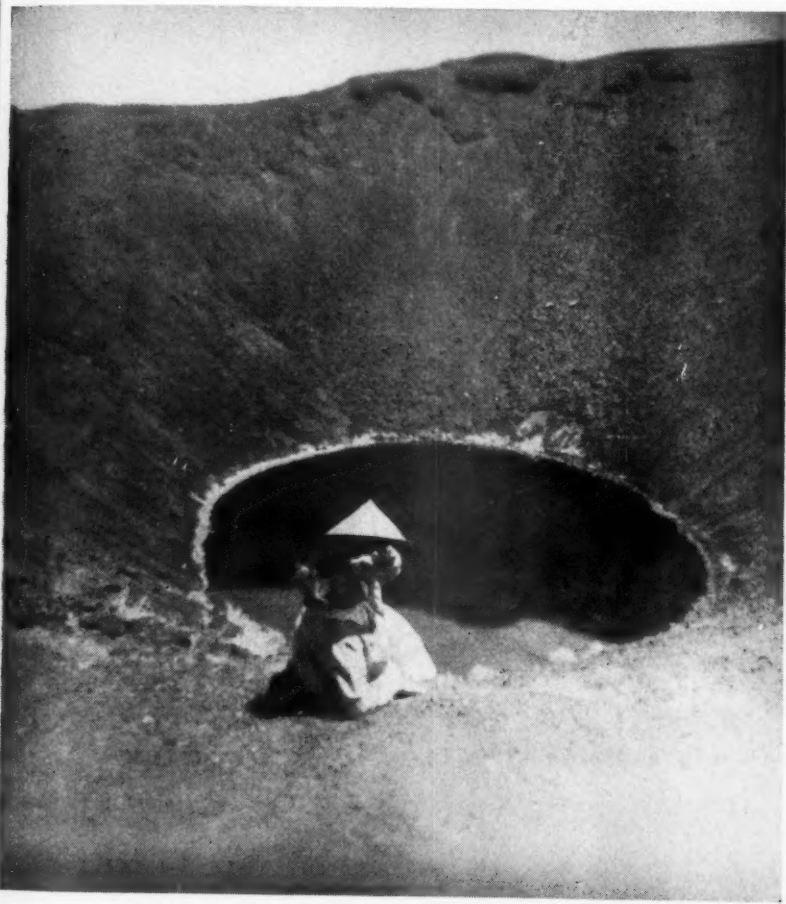
The Author with crystal growth specimens.

had stayed too long in the lake and had become so salt-encrusted that flight was impossible. He and Mrs. Sedillo have frequently washed and "chipped" the salt from birds thus handicapped, only to have them fly right back into the lake and again become salt-bound!

In desert areas of New Mexico there are many playas—lake beds which are usually dry but which collect water with sufficient frequency to merit the name "lake". There are also numerous depressions where water may accumulate rarely but may persist for considerable periods.

I know of no official name for such lakes; "transient lake" is no misnomer, nor is a friend's description too misleading—"A three mile by half mile by six inch lake that may last overnight or nearly". Salt Lake country isn't desert, it is rolling grass land, punctuated by mountains and lava flows and cones. Nevertheless it is semi-dry country and the existence of a permanent body of water therein may readily raise questions as to how and why it exists.

The lake is in a depression of more or less circular form and perhaps a couple of



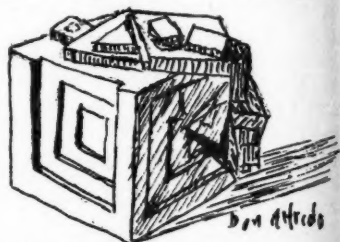
Dona Ruth relaxing in the cone crater.

miles in diameter and about two hundred feet deep from the average level of the surrounding rolling country. This depression is believed to be a result of a cauldral subsidence. The surrounding countryside is generously peppered with lava flows, small craters and other evidences of volcanic activity. Beneath the area here considered, there formed a large accumulation of lava—hot and fluid. Somewhere,—possibly at a considerable distance—this pocket of lava found a vent and spilled out onto ground at a level considerably lower than here. Our Salt Lake area was thus deprived of its support and eventually a sizeable block of earth droppod into the space vacated by the lava—a drop, probably, of several hundred feet. The sides of the hole thus formed may have been rather steep, but erosion has softened the rough spots and moved material from the surrounding area into the hole, converting it into a saucer-like depression. The lava flow which caused (or permitted) this subsidence did not necessarily end volcanic activity at this point. At a subsequent time sufficient lava accumulated and sufficient pressure was generated to cause the minor eruption or eruptions which created the piles of scoria at the south of the lake. Somewhere below the lake are salt beds—apparently at unknown depth. The waters of the springs that feed the lake pass through these salt beds, thus maintaining the salinity of the lake. As a "wonder of nature" it may be mentioned that within only a few hundred feet of the east end of the lake there is a well which supplies salt-free drinking water.

Although it is of a high degree of purity, the product of Salt Lake seldom is used as a table salt. It is sold largely for "salt lick" for livestock (Indians from the nearby Zuni Reservation use large amounts of it for this purpose, have been doing so for many years and thus gave the lake its "official" name) to water softener operators and to ice cream manufacturers. Rockhounds desiring "free samples" are permitted to do their own harvesting from the boat moored beside the harvesting structures or from the structures themselves. At most times superfine speci-

mens—obtainable by this means—may be in the minority, but any of the many pieces of dry tumbleweed may, when carefully taken out of the water, yield several strands of fine crystals, many of them with cavernous faces.

A trip of nearly four hundred miles to obtain a small quantity of salt? Ah, yes, but salt with character! **HALITE!**



An intergrowth of Halite Crystals

East Bay Mineral Society

Our 17th annual show was a decided success. A great deal of thanks should go to our fine show chairman, Harold Mahoney. Attendance was particularly fine and we had visitors from as far away as Washington State.

In May it will again be time for our election of officers and we shall end the year with the largest membership I am sure of any society in California. . . 35% active members and this does not include our honorary and courtesy members.

At the present time we are putting forth a great deal of effort in working with our junior group. This is a fine hobby for youngsters and we sincerely believe that Jr. Rockhounds, if given the proper attention and encouragement, will never become child delinquents. Dr. F. M. Yockey, now retired from the Oakland School Board, has charge of this Jr. Group and assisting him are Mr. Lamberson and Donald Howard.

The societies in this area are working together very nicely in sharing field trips and it helps to create a very fine spirit of friendliness and understanding. Rockhounds are friendly people and we aim to prove it.

Mrs. Dennis Patterson, Secy.
P. O. Box 1196
Oakland 4, Calif.

BARCELONA -- A SPANISH GEMSTONE LOCALITY

By Commander John Sinkankas

EDITOR'S NOTE: This is the seventh of a series of articles by Commander Sinkankas about his collecting experiences while serving aboard a U. S. Carrier as Executive Officer.

Enlarged through successive generations, the harbor of Barcelona extends from the foot of Montjuich, a flat-topped hill crowned by an ancient fort, to the base of the city itself. Our ship was too large to be berthed comfortably in the crowded harbor and consequently the pilot guided us to an anchorage within convenient distance of the harbor entrance. As we made our approach I noted with interest the hill of Montjuich, taking time to examine its obvious sedimentary layers through the binoculars. Little did I realize at the moment that this hill, and the quarries at its foot, would provide some interesting and colorful cutting material.

On liberty in the city, I wandered one day into an enclosed square called the Plaza Real and idly examined the shop and sidewalk cafes which lined its walls. Suddenly—a window with mineral specimens! Excellent!—perhaps there would be something of interest inside. The shop was small and from its title was a natural history establishment which specialized in the sale of stuffed animals and birdlife, skeletons, and other exhibits for the teaching of this science. There were also mineral specimens but all were small and obviously designed for the beginning student in mineralogy. Nevertheless, a small piece of fair cutting grade Picos de Europa sphalerite was purchased as well as a few of the classic aragonite xls from Aragon, Spain, and a fragment of colorful jasper. The latter interested me and I asked the young proprietor whence it came. Carefully collecting my money first, he laughed and told me—"From Montjuich, Senor!" I laughed too because the joke was on me, Montjuich was the sedimentary hill frowning over Barcelona and if a building had not interfered, I could have looked upon it from where I stood in the shop. My lack of Spanish prevented me from elucidating any further information but I determined then and there, to visit Montjuich and

examine the quarries for traces of this "jasper".

The next day, I returned ashore with handbag and pick and summoned one of the very inexpensive taxis from the melee at the foot of the Columbus Monument. Soon I sped quickly to the foot of Montjuich and up a winding tar road on its seaward side which led to Miramar and the grounds of the famous World Fair held in Barcelona in 1928. Part way up the hill, I stopped the taxi and began my examination of the foot of the hill, ranging to the south in order to cover the entire base.

Evidences of the jasper were not long in coming and in no time at all I was in that paradise in which all collectors like to be—so many specimens that the question is one of choice rather than quantity. Fragments of the jasper-like material were strewn all over the slopes, existed in dumps and fences, and gave every sign of an inexhaustible supply. Before launching into a description of the specimens, it may be worthwhile to remark that none of the material has been tested for cutting properties but there is little doubt in the authors' mind that it will cut, and cut well.

In general, two distinct types of specimens were noted, the first and most abundant being a siliceous rock bearing a startling resemblance to the well-known "wonderstone" of the Western United States. The wavy bands of contrasting reds, maroons, browns, grays, etc., were all there, perhaps not quite as intense as in our material but certainly more silicified and therefore more likely to take a better polish. Of greater interest, however, were specimens in the second category,—these were so completely silicified they could be classed as jasper or chalcedony. Thin sections held to the light, showed considerable translucency while the surface luster of freshly-broken pieces further testified to the essential purity of the material. Some examples bore a strong similarity

to Arizona petrified wood, while others resembled a type of jasper from Australia called "ribbonstone". Still another kind, showed brecciation, a rare thing in agates. None of this class showed concentric bands like those formed in agate geodes and in which the bands representing the deposition of siliceous matter are parallel contours duplicating the outline of the cavity. On the contrary, all evidence pointed to a diffusion of silica-charged waters seeping through a porous parent rock, and gradually replacing it in some spots, or filling cracks in the rock itself. A reconnaissance of the entire hill strongly supports this hypothesis and the mode of formation which is described in the following, will attempt to piece together the evidence visible to show how this hypothesis was obtained.

Figure 1 is a sketch prepared to show the hill of Montjuich and the sedimentary strata which make up its mass. The upper levels are earthy and clayey, considerably charged with iron compounds, and dotted with ironstone concretions as well as occasional limonite pseudomorphs of what appear to be specular hematite and galena, although the latter may well be pyrites.

A specimen has been retained for further study. Lower down, the sediments gradually increase in strength with an occasional thin layer which creates a shelf by virtue of greater resistance to decay and erosion. Near the bottom of the hill, broad bands of very strong sandstone occur in which were found well-preserved fossil shell casts. This rock is gray in color and appears to be essentially quartz. The nature of the bond between grains is of such character that the material can almost be classed as a quartzite, however, it fractures around individual grains rather than through them as would be the case in a well-developed quartzite. It is this lower layer of sandstone which has been quarried extensively and which bears the greatest importance in this discussion because of the evidence it contains of the geological sequence of events giving rise to the gem material found therein.

After examination, it was obvious that the lower layers of Montjuich had been upthrust by a batholith which provided the mineralizing solutions responsible for the deposition of chalcedony and the alteration of upper layers into wonderstone.

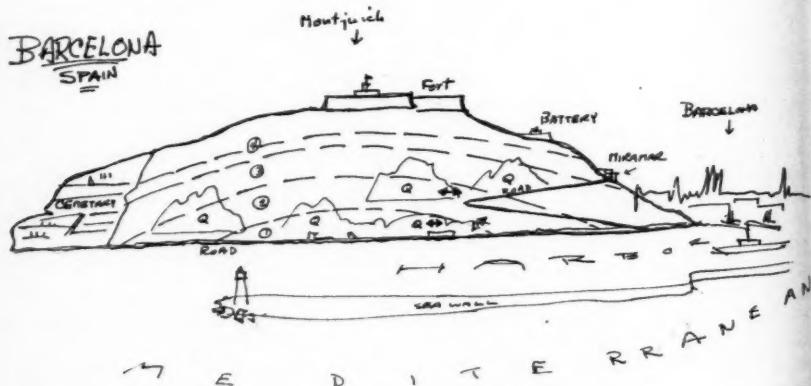


Fig. 1
Sketch of the hill of Montjuich

One quarry, for example, was entered with considerable trepidation because the walls were profoundly shattered by numerous vertical fissures filled with crushed rubble and obviously waiting for some incautious person to dislodge the mass and start a landslide. Yet when these fissures were examined, it was found that all of the rubble, or breccia, was *firmly cemented together with thin films of chalcedony*. Air spaces were numerous and large, the whole mass looked as if it had been blasted yesterday by quarrymen and then left without further work! From this evidence it was easy to deduce that the large cracks and fissures were created when the ancient igneous mass underneath thrust upward, and bowing the originally level layers of sedimentary rock, caused numerous radial cracks. At almost the same instant in geologic time, even before erosion from above could fill these cracks with earth and clay, the hot solutions from the igneous mass beneath permeated the shattered sandstone and cemented all of it together in a lasting bond. Some of the mineralized waters spread laterally into smaller cracks and filled them completely with the jaspery material already described. In other cases, the same solutions ascended into the softer and more porous sediments above and altered them into wonderstone.

A close and leisurely examination of specimens collected, shows further that several cycles of upthrust and mineralization took place. Several fragments are well-brecciated with chalcedony as the binding agent, but of greater significance, the fragments consist of the original parent sandstone and *jasper itself*! Thus it appears reasonable to assume that large and porous fissures filled with rubble (sometimes individual pieces were as much as several feet across) were merely the channels through which the solutions flowed until they lost themselves in the porous layers above. Very little seam jasper was found in the lowest layers of the sandstone but a considerable amount was evident in layers about halfway up the slopes. The wonderstone material also occurred at about this point but probably extends even higher.

Specimens collected varied in size from thin seams of jasper to those about 3 to 4 inches thick. Wonderstone was evident in which larger pieces, in some cases, several feet across. Almost all specimens are deceptive in appearance tending to be drab and dark on the outside where they have split away from the parent rock; testing by chipping off corners was needed to insure that such pieces were not equally drab inside. Altogether, about 50 lbs of material were collected in a space of several hours and, as has been stated before, much more remains. It is interesting to note that not one specimen of an igneous or volcanic rock was noted in the deposit.

A complete list of specimens found at the Monjuich locality follows:

Quartz, rock crystal - in small vugs enclosed in jasper.

Quartz, cryptocrystalline - jasper, jasp-agate, thin films of almost colorless chalcedony, also chalcedony films colored red by included matter.

Opal, hyalite - transparent colorless films lining cracks and fissures; one handsome specimen in which clear hyalite encloses limonite. All films are very thin.

Opal, common - white translucent opal in thin films covering jasper breccia fragments.

Calcite, "cave onyx" - several small specimens of brownish and layered cave onyx. Reputed to be very common in the vicinity of Barcelona.

Calcite, crystals - noted in thin crystallized films in cracks and fissures.

Limonite, "ironstone" concretions - common in upper layers of Montjuich sediments.

Limonite, pseudomorphous - several pseudos of some crystals of the cubic system were noted. The multiple character of the crystals indicates galena but they could be pyrite. No striations typical of pyrite were noted however. One pseudo showed thin bladed crystals of a rounded outline indicative of hematite "eisenrosen".

EGYPTIAN SPHERES, FORMS AND AGATE PEBBLES

By Dr. Claude H. Barlow

P. O. Box 455, Trumansburg, N. Y.

Get on the train, with me, at Cairo and go up to Oasis Junction, near Luxor. Get off the train with all your luggage (they call it luggage because you have to lug it yourself.) and get on to a queer diesel "Trolley" which is an open box-car with a diesel engine installed in its fore end, which runs on a narrow-gauge railway known as The Egyptian Light Railways. There is only one stop; the end of the line at the Kharga Oasis. The driver is a Bedouin with a true sense of appreciation of the beauty and grandeur of the Sahara

On this trip the diesel, the driver and all are mine for a medical control survey and I have three Egyptian men and my daughter with me. Being an Egyptian official of the Ministry of Health carries with it the privilege of requisitioning its facilities. The driver accedes to any request I may make, not insisting on keeping a time schedule or making time: the diesel is mine to command.

The country through which we pass is wild, arid desert. Mile upon fascinating mile of limestone floor aquiver in the blasting heat stretches away to the horizon. Multi-colored cliffs stand stark and beautiful in the blazing sun and, as we near Kharga, we run into Barkans, those travel-



The Egyptian Light Railways used by the author.

ling hills of pure yellow sand. Just before the dunes we sighted a wadi full of stones: not just ordinary stones but the most astonishing array of stones spheres I have ever seen in Nature. So I stopped the diesel and we all got down and went over to the wadi. As far as the eye could reach we saw spheres of stone lying all over the limestone floor of the wadi. Some were the size of a baseball but most were the size of large watermelons which they resembled from a distance. The driver told us that the name of the place was the "wadi Ba tieh" (The dry river of the water-melons) and it is aptly named. The nodules or hard-heads have worked out of



Wadi Ba Tieh (the dry river of the watermelons). A most astonishing array of stone spheres are present in this dry wadi of Southern Egypt.

the limestone formation by temperature and wind rain erosion down through 25 to 30 million years. Most were free and easily rolled about on the wadi floor, some were half worked out and some were just showing their rounded heads above the rocky floor. They are almost perfectly spherical. Would that I might really KNOW the story of their formation and later vicissitudes. A bunch of determined rock-hounds would rob that melon patch of every loose stone melon in a matter of a month but it would be a long wait before a new crop was ripe enough to pick. I brought back a bagful of the little ones and pictures of the wadi, just to prove that I'm not a liar.

Or get into my desert-exploration Chevrolet with its huge sand tires and ride with me through the Eastern Desert on roads which are not roads, over mountains which are hills, along river bottoms which are dust dry till we get half way to the Gulf of Suez. Here are rolling hills covered with shimmering stones. Here are endless days of shimmering heat, wind and sun; endless nights of bitter cold and heavy dews. Sparse plants support a Bedouin tribe, their sheep, goats, donkeys and camels, I know not how.

The stones lie exposed and in some far-distant past some were water—washed into wierd and lovely "Forms". Amongst the forms there are spheres of jasper or chalcedony, or chert or a mixture of all three. Some are no bigger than a BB shot

while some are as big as a croquet ball. By years of assiduous collecting I have gathered a basketful. Some of them are shining polished but most of them show a granular surface. It gives one joy to run one's fingers through the pile and to wonder how they began.

But strange as are these spheres they are not half so intriguing as those we call "Forms". We go "Forming" and "Have you seen my latest forms"? We combine them into many creatures, some wild and savage, some grotesque and some quaint and smile-provoking. Here's an old lady and duck; here, a haughty witch; here is "Dopey" of the Seven Dwarfs; and here, strange birds. "Forming" is not only fun it becomes an almost unbreakable habit (a back-breakable habit if ever there was one.) One covers square miles of the desert bent over like this.

Searching for "Forms".

Only rarely does one find an agate pebble. However, down at Abu hammad under rollong sand hills lie ancient river beds. These contain gravel which the Government Railways use for heavy ballast for their standard guage railway tracks. Arabs dig out the gravel, load it onto camels, bring it to the Ishmalia Canal where it is dumped in great piles to be loaded onto barges and shipped to the railway lines all over Egypt.

Go to the piles of camel-borne gravel,



A close-up view of some of the large stone spheres in Wadi Ba Tieh.

look long and diligently and there you will find that rare treasure of the true Rockhound—the Egyptian agate pebble. Not even the Geological Museum of the Egyptian Government knew there were any there till I sleuthed them down. I found one on the railway in the Fayume Oasis where agate simply does NOT belong and traced it by easy stages and rail way station masters back to its source. I made pilgrimage after pilgrimage to the quarries of gravel and collected a supply of these pebbles over a period of ten years. Even after presenting the Museum of Geology with a liberal gift of these

agate pebbles I had difficulty in persuading them that any agates **COULD** be found at Abu Hammad.

Many of these agates cut and polished beautifully and many have good color. There is no vein-agate in Egypt, so far as is known, and these rare agates are all of the pebble variety.

Editor's Note: Dr. Barlow, the author of the above interesting article, resided in Cairo, Egypt, for many years. He has supplied **ROCKS AND MINERALS** readers with many notes and articles on Egyptian minerals.

Novice Column

In the Sept.-Oct. 1953 R&M, Gordon ViGario, 2231 Pine St., Bakerfield, Calif. suggested that Novice Column be opened for rank beginners in mineral collecting. These amateurs, who do not know one mineral from another, may submit their names to the Novice Column.

It is our hope that collectors having duplicates may donate a few specimens to one or more novices who are expected to acknowledge receipt of specimens received and to reimburse each sender for postage paid on the packages. Please print or write plainly the names and localities of all specimens sent novices, and if 2 or more minerals appear on the same specimen, identify each. Remember the novices do not know one mineral from another. so please be as helpful as you can.

The following is the 9th list of novice collectors.

Doris Lutz (13 yrs.), 179 So. San Jose, Calif.

Bill Norton (12 yrs.), 1423 Sunset Blvd., Pacific Palisades, Calif.

Charles A. Flinn, 524 Main St. Windsor, Colo.

David F. Adler, 2458 Callow Ave. Baltimore 17, Md.

Mrs. Frances Buchler, RI, Gladwin, Mich.

Vester E. Mock, Springport, Mich.

Mrs. Robert Schenk, Rt. 1, Box 71, Witchlake, Republic, Mich.

Mrs. Anna M. Connor, Stratford Road, Kansas City 13, Mo.

Willis and Wilma Lee, 208 East 3rd St. Kimball, Nebr.

Benjamin R. Dadd, 360 Norwood Ave., West long Branch, N.J.

G. M. Etherington, 219 Highland Rd., Mahwah, N.J.

Joseph Jeski (12 yrs.), 676 Humboldt St., Brooklyn 22, N.Y.

Catherine Philipsbar, 90-51 180 Street, Jamaica 32, New York

John Hood Summey (14 yrs.), 712 Carolina Ave., Gastonia, N. C.

Jimmy Guy Blencoe, (10 yrs.) 6055-22nd Rd. N., Arlington 5, Va.

Fred M. Davis, 25 N. Princeton Circle, Lynchburg, Virginia

Hunter Ware, 301 Ave. E., Virginia Beach, Va.

Mrs. Cornelia Powis, Sweetsburg, Que., Canada.

HOLDENITE COMES OUT OF RETIREMENT

By John S. Albanese
P. O. Box 221, Union, N. J.

Ever since Charles Palache's professional paper on the minerals of Franklin and Sterling Hill, N. J. was first published, the more serious collectors of minerals from that locality have had but one objective - the ownership of a suite comprising every mineral listed and described in this classical book.

Over a period of years. I have received many communications from some of these gentlemen, listing rarities required to fill gaps in their Franklin collections. Invariably, the name Holdenite appeared.

For a quarter of a century, many thousands of Franklin minerals have passed through my hands. I have read Palache's Professional Paper 180 so often that I honestly believe I could recite from memory every paragraph from first page to the last. Particular attention was paid to the description of Holdenite, hoping that some day a specimen might turn up, by chance, in an old collection. I had no authentic specimen to be guided by, and never having seen a crystal of Holdenite, I never the less continued the search.

During a recent visit to Harvard University, I asked my good friend Dr. Clifford Frondel, curator of Harvard Mineralogical Museum, for the privilege of examining the only known specimen of Holdenite. I had expected to be led by an armed guard or two to a vault, perhaps an underground repository somewhat like Fort Knox. Where else would one expect the fabulous Holdenite be kept?

But much to my surprise, Dr. Frondel walked but six or seven feet to a cabinet which held all the material used by Dr. Palache in preparing his famous paper on Franklin minerals. Presently he returned, holding in his hand a small cardboard tray. What the tray held appeared to me to be almost a duplicate of many specimens of leucophoenicite I had seen or collected. Perhaps there was mistake? Did Dr. Frondel misunderstand me?

Now Dr. Frondel had the specimen on a bench under a binocular microscope, for my examination. The label in the tray

read "Holdenite". But I could not be sure. Certainly it was not the thing I had pictured indelibly in my mind after reading its description in the Franklin "bible". Palache described the color of the crystals as clear pink to deep red to yellowish red. The color of the specimen before me was a pale raspberry red, a color peculiar to leucophoenicite, same as the many specimens I had seen before. And where was that large crystal of Holdenite illustrated on page 125, figure 193? For years, when looking for a suspected specimen of Holdenite, I had looked for a large deep red crystal, anywhere from one half to one inch in size, set like a ruby on the usually dark willemite-franklinite ore. But here was something looking like small crystals of either Leucophoenicite or Hodgkinsonite on milky white calcite with grains of grass green translucent willemite and a few grains of franklinite.

While I was entertaining these doubts, Dr. Frondel was now prepared to guide me through the examination, a privilege and distinction I shall long cherish. As for the large crystal that troubled me so much, it simply never existed. No Holdenite crystal I examined was larger than two millimeters. It never occurred to me that the illustration (fig. 193) might be a magnification and not the actual size. No mention of the size of crystals appeared in Palache's book. Indeed, all the Holdenite crystals are small, and cannot be appreciated unless viewed under a lens. The original specimen, about 3 x 4, has been broken, and now is in two pieces, each about 2 x 2½. Four or five small crystals are preserved in a small glass vial, as is some of the material used for the analysis and other tests.

At the end of the examination. I could not help but feel that there might be still another specimen of this same material mislabeled leucophoenicite. In fact, this same specimen of Holdenite was labelled "leucophoenicite" when found in the collection of Mr. A. F. Holden, of Cleveland. The writer suggests that simple test for arsenic on a suspected specimen

would be a step in the right direction. Leucophoenicite is a basic silicate of manganese while Holdenite is a basic arsenate of manganese and zinc. The percentage of arsenic oxide is roughly 18 percent, and a reaction for arsenic would be sufficient to distinguish Holdenite from Leucophoenicite, which contains no arsenic and but trace of zinc. Perhaps this suggestion

might result in the destruction of a few specimens of leucophoenicite, but the average collector would profit considerably if he makes frequent tests on his unidentified or suspected minerals. I know of no greater thrill than to identify, by chemical or blow pipe tests, an unidentified or unknown specimen.

NEW INSTRUMENT EXPECTED TO REVOLUTIONIZE URANIUM PROSPECTING

Production of the Model 111B "Scintillator," an instrument which is expected to revolutionize uranium prospecting, was announced on Jan. 28, 1955, by L. Norman, President of Precision Radiation Instruments, Inc., of Los Angeles. The new instrument features a special "percent" meter which, for the first time in the development of uranium location equipment, will make it possible to determine percentage of uranium in ore at the point of discovery. Formerly this could not be done until ore was chemically assayed.

The Model 111B Scintillator has a sensitivity unparalleled in instruments of this type. Utilizing an extra large $1\frac{1}{2}$ " dia-

meter sodium iodide crystal and an 8 tube "Multi-Mu" circuit, the new instrument produces a sensitivity 200 times greater than the best geiger counter.

Mr. Norman stated that the instrument may be used effectively for aerial survey work and that detection of uranium ore at record depths may be expected.

The new Model 111B Scintillator weighs only $7\frac{3}{4}$ pounds and is designed for greatest possible mobility and portability. For further details write to Precision Radiation Instruments, Inc., 4223 West Jefferson Boulevard, Los Angeles 16, California.



Here is the newest development in Uranium Prospecting equipment . . . the Precision Radiation Model 111B "Deluxe" Scintillator. At the top of the instrument you see the exclusive percent meter which tells at a glance the value of your ore right in the field.

GALENA (III.) BOASTS ONLY MINERAL MUSEUM IN 1,000-MILE STRETCH

The only rock and mineral museum between Chicago and the Black Hills" is the way Mr. and Mrs. Leo Miller describe the collection of specimens now attractively housed in the front end of their market warehouse on U. S. Highway 20, Galena, Ill.

Actually the enterprise belongs to the Miller children — Carol, Raymond, Lee and Mary Beth, the oldest of whom is only 17. Raymond has been a collector ever since he began picking up odd looking stones as a toddler. Mary Beth caught the fever, and has built a sand collection which includes samples from the Great Lakes, New York, Canada, Mexico and Nova Scotia. Carol became interested through the Girl Scouts. Eventually the parents took a closer look at the hobby which was consuming so much of their children's time, and found it fascinating.

A Family Hobby

Today they're a collecting family. Instead of going to their cottage at the lake this summer, all hands "turned to" in an effort to collect and identify the minerals of this area.

According to Mrs. Miller, the most likely hunting ground is the waste piles outside the big mines. But there are many other areas in the Illinois - Wisconsin ter-

ritory which are worth probing. Minerals are added by trading with collectors from distant states by new discoveries and occasionally by purchase.

Today there are a large number of specimens in the Galena Rock and Mineral Museum. The enterprise was opened to the public about July 1.

No Admission

The Millers emphasize that their collection is not a money making scheme. No admission is charged from those who come in to examine the exhibits but a donation box is maintained, so that purchases can be made and the collection enlarged. Someday it is hoped that the rear wall of the exhibit hall can be pushed back, and Carol and Mary Beth can be kept behind the counter throughout the tourist season.

Meanwhile the Millers will be glad to see all comers. Local Galena mineral enthusiasts are particularly welcome despite the fact that the museum has been placed on the highway so as to attract the tourist.

Reprinted from the Galena Gazette and Advertiser, Galena, Ill., Tues., Sept. 28, 1954.

Editor's note:—For those who may want to contact the Millers, their address is 324 Spring St., Galena, Ill.



The Miller Rock and Mineral Museum in Galena, Illinois

LAWSONITE CRYSTALS on TIBURON PENINSULA, CALIF.

By Ben J. Chromy

301 Westory Bldg., Washington 5, D. C.

During the War while the writer was stationed at the University of California he made a number of field trips to Tiburon Peninsula, Marin County, California, for the purpose of collecting minerals from the schists outcropping there. Tiburon Peninsula is about eight miles north of San Francisco and extends into the Bay, pointing in the general direction of Berkeley. It is easily reached from San Francisco on route U. S. 101 which cuts across the west end of the peninsula and proceeds on north through the scenic redwood forests.

Dr. Pabst, Professor of Mineralogy at the University of California, mentioned to the writer the existence on this peninsula of a substantial boulder containing crys-

tals of lawsonite where this mineral was discovered in 1895 by F. L. Ransome. (1) The picture Fig. 1 shows the folded vein-like structure of this boulder and it was in the narrow crevices that the crystals such as those illustrated in the picture Fig. 2, which is somewhat enlarged, were obtained.

The location of this boulder on the peninsula is illustrated in the picture Fig. 3 which was taken looking in the north-westerly direction. Route U. S. 101 can be seen in the background in the picture cutting across the low part of the peninsula. The boulder in the foreground, which is the main object of interest, is at the western end of the ridge forming what might be termed the backbone of



Fig. 1

Lawsonite crystals occur in the narrow crevices of this boulder on Tiburon Peninsula.

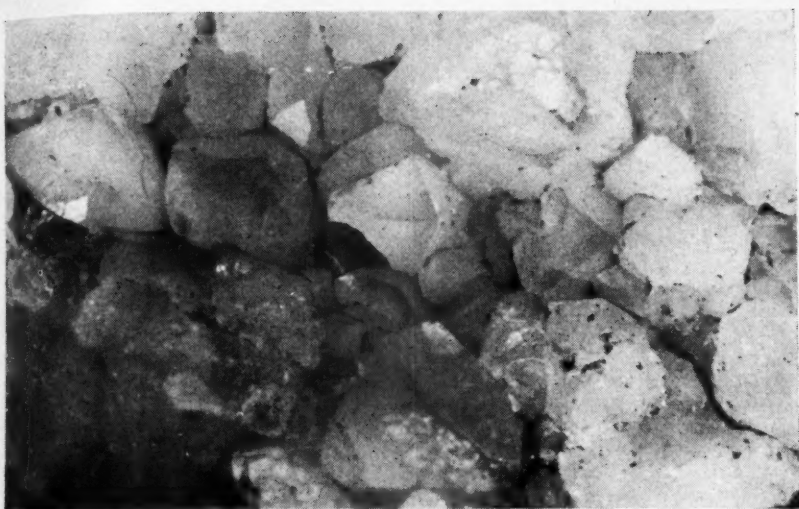


Fig. 2

Lawsonite crystals, somewhat enlarged, obtained from the boulder on Tiburon Peninsula.



Fig. 3

Lawsonite-bearing boulder in foreground, on Tiburon Peninsula.

the peninsula and it is on the top of this ridge that the schists outcrop. Mt. Tamalpais is the peak shown furthest in the background.

Lawsonite crystallizes in the orthorhombic form and a common habit of this mineral when crystallizing freely in open clefts is shown in Fig. 4. This habit may be recognized on some of the crystals shown in the picture Fig. 2. The composition of lawsonite given by various works on mineralogy is that of calcium and aluminum silicate,



Since its discovery on Tiburon Peninsula in 1895, lawsonite has been found to be widespread in the metamorphic rocks of the Coast Ranges of California. It is not infrequently found associated with the glaucophane schists. These schists occur on Tiburon in a wide variety of shades of blue, ranging from a light grey blue to a blue black. Many of these in-

clude small well formed garnets. Another metamorphic rock found here is a hard variety of serpentine called Bowenite which is of a light blue green color.

Reference

(1) Page 189, Bulletin 136, Minerals of California, published by the Division of Mines, Ferry Bldg., San Francisco, Calif.
The dark purple massive variety of fluorapatite

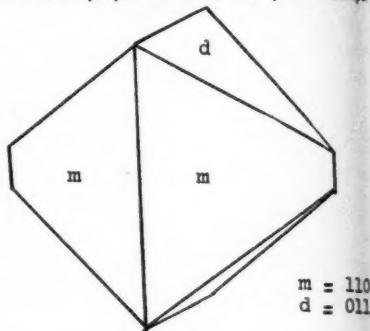


Fig. 4
Drawing of a Lawsonite crystal.

Mineral Show in Toronto, Canada

The Walker Mineral Club of Toronto, Canada, is putting on a good display of members collections and lapidary work in one of the galleries of the Royal Ontario Museum in Toronto. The show will last till the end of May.

John W. Edwards, who is also a member of the Rocks and Minerals Association, is featuring a display of about 30 textbooks and other books of interest to mineral collectors, including Zodiac's "How to collect minerals".

A special attraction of the show will be the display of a 10 foot long flexible fibrous brucite (nemalite) which was donated recently to the museum by Mr. Edwards.

The Editor of R & M will take in the show—he will sneak away when work is

not too pressing, grab a plane and before the day is over will be in Toronto enjoying the sights of the Royal Ontario Museum and the big show!

New York Southern Tier Geology Club

A new club has been organized in Binghamton, N.Y., with the official name of "New York Southern Tier Geology Club." Meetings are held on the 4th Friday evening of every month at the Harpur College Geology Department in Endicott, N.Y.

Dr. Alfred L. Standfast, 32 Oak St. Binghamton, N.Y., is President of the new club. All readers residing in the Binghamton area are urged to contact Dr. Standfast and join the club.

BLUE JOHN LOCALITY IN ENGLAND

By Mrs. Robert R. Barker

2 Park Road

Diss, Norfolk, England

We are rapidly discovering that mineral collecting as a hobby just doesn't exist in England, at least not over here in our corner of the country, but we hope to have better luck finding kindred spirits in London this winter.

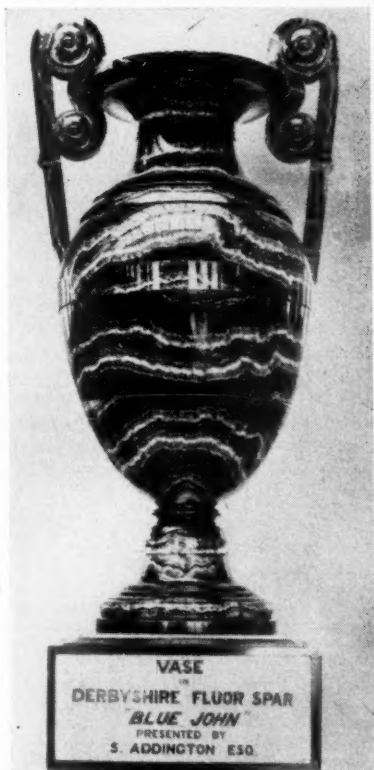
So far we have had one mineral adventure, and that took place the first weekend after I arrived in England. We drove over to Derbyshire to visit our good friend Mr. Harold Harrison who we had never met in person but with whom we had been corresponding for several years. Mr. Harrison owns the Treack Cliff Caverns in Castleton, Derbyshire, where the beautiful Blue John is mined. In fact, at this time his caves are the only ones producing this banded fluorite, the other adjacent caves being just about worked out. Mr. Harrison himself makes the famous Blue John Ware, little bowls and ornaments.

We had a pleasant evening visiting with Mr. Harrison and his family. While we were in his home we were privileged to see several pieces of antique Blue John ware. Made years ago, these tall vases and urns were cleverly made by skillful matching-up of the banded material.

Next morning Mr. Harrison's son, Mr. Peter Harrison, gave us an especially conducted tour through the caverns. Lead miners have known about these caves for two hundred years, and for a time, unfortunately, the Blue John fluorite was mined and sold merely as a flux. Further operations in 1926 lead to the discovery of another series of natural limestone caverns that were first opened to the public in 1935.

We certainly got quite a thrill seeing these Blue John caves. In places the walls and ceilings seem to be one solid glistening coating of this fluorspar. In massive sparkling black lumps and crystals the fluorite is associated with calcite crystals across the ceiling. We could easily see how Blue John got its name, for even in

the powerful electric lights the "spar" bears a remarkably close resemblance to Black Jack Sphalerite, the mineral with which the early miners were more familiar. These miners, who sometimes had to



"BLUE JOHN" VASE

The dark purple massive variety of fluorspar known as "Blue John" is only found in Derbyshire, and has been worked for ornamental purposes for many years. This vase, 2½ feet high, is one of the finest examples of this work in existence.

This is a picture of the large urn in the Geological Museum in London. In this photo you can see where the Blue John sections are put together.

The vases and urns that Mr. Harrison owns are very similar but somewhat smaller.

bring the mineral into the light of day to distinguish the blue color, called it "Blue John" as differentiated from "Black Jack."

I could have stood there for hours just looking at this gleaming room of fluorite. We were told that each vein of Blue John has its own characteristics, and that anyone familiar with the stone can tell in an instant from which vein a polished piece of Blue John came by the number of bands and colorings in the specimen. There are fourteen different veins in all, each having its own special name. To add to the interest of these caves, several polished bowls or slabs illuminated by lights have been placed along the route to show the characteristics of these different veins. All colors of blue, violet, purple, and even deep violet-red may be obtained from these veins.

The rest of the walk was through the limestone caverns that are separate from the Blue John caves. These are interesting too, with some delicate displays of stalactites and husky stalagmites. One group of stalagmites has been given the amusing name of "The Seven Dwarfs" plus a wee white one "that some millions of years from now may grow up to be Snow White." In these caverns there is no Blue John at all.

We came out of the caves at a higher

level than we want in since Treak Cliff Caverns are inside a little mountain. From here we had a beautiful view of the Hope Valley with its moorlands stretching off into a hazy sunlit distance. This is a very interesting region: The ghostly ruins of Peveril Castle stand on a crag above the picturesque village of Castleton; this castle is the scene of Sir Walter Scott's book *Peveril of the Peak*. Also in this township is Mam Tor or "Shivering Mountain" a high forbidding limestone cliff that always seems to have a few pebbles or rocks rattling down its sheer sides, thus giving it its name. Not too far away are Matlock Bath and Darley Dale, villages from which many beautiful mineral specimens have found their way across the ocean and into American cabinets.

We were welcomed back to the entrance cabin with a steaming cup of coffee which was most welcome after our trip through the damp cool caverns.

Unfortunately they had no postcards of the blue John ware nor of the caverns. Very regretfully we left Castleton in full agreement with Cavern's slogan: "If it's beauty you seek, come to the Treak!"

Editor's Note: Mrs. Barker (formerly Miss Patricia Berry of Lynn, Mass.) is temporarily residing in England. We hope she will send us another article on mineral collecting in England.

JACKROCKS IN HENRY CO. VA.

"Recently, having a couple of hours to spend, I decided to take a short run up the highway and see if I could find anything to add to my collection. This highway is No. 220 U. S. North from Martinsville, (Henry Co.), Virginia.

"I stopped about nine miles out and almost immediately began to find black cubes from the size of a pea to an inch in diameter. Many were water-worn but some were well shaped. They were mostly dull in luster and were covered with a network of tiny cracks, some of them reacted to my magnet.

"I picked up a handful and drove on to H. C. Holcomb's store. Mr. Holcomb

told me they were JACKROCKS. He told me that was the only name he knew for them, and that was the only place he knew where they could be found.

"I drove back to the location and met a Mr. Brown who owned the field. Getting his permission I picked up a cigar-box-full, for trading purposes.

"Being a novice collector I sent some of the stones to the Virginia Polytechnic Institute at Blacksburg, where Professor Richard V. Dietrich told me, if you haven't guessed, they are limonite pseudomorphs after iron pyrites."

Letter dated Dec. 13, 1954, from Clyde Brown, Fieldale, Virginia.

WHY NOT ROCKHOUNDS?

By Bevan M. French

98 Alexander Avenue, Nutley 10, New Jersey

The fraternity of mineral collectors is a large and complex organization. It includes many types, kinds, shapes, and flavors. It includes many people who like many different things, but all of them have one thing in common; their love of earth sciences. In fact, the comradeship of mineral collectors seems to embrace everything except one slight thing: what does a mineral collector call himself?

Now I suppose that the term "mineral collector" seems to cover the entire business very nicely, except that it seems rather dull, and invariably suggests to the uninitiated a rather dull, uninspiring way to spend one's time. This viewpoint, as we who are inside the hobby know full well, is not true. What we need is a name that will suggest something of the dash, the interest, and the enjoyment attendant upon the recreation of mineral collecting.

For instance, how many recruits would the Marines have gotten by advertising themselves as "sea-going soldiers"? Instead, they used the name "leathernecks" to give themselves an air of romance and he-man-ism which the general public found much more acceptable.

Groups of people have always stirred up more interest by using some easy-to-remember name which has invariably identified the members of the calling to the general public. This same rule has been applied to manufactured products, baseball teams, football teams, and just about every other group that wished to appear interesting in the eyes of this same general public.

The next point would obviously be: do we wish to popularize the mineral collecting hobby in the same manner? We seem to; we arrange exhibition keyed to the layman's appreciation of beautiful and interesting specimens, rather than his small knowledge of technical matters. We publish articles on similar phases of the earth sciences, and encourage the layman

to come to our conventions and enter the hobby, even as we did.

And naturally, being human, mineral case in point, take the recent controversy of rockhound vs. rockologist. The proponents of the former name will tell you that it is simple, catchy, and very nicely describes people who enjoy collecting minerals, while the adherents of the latter cognomen contend that it is dignified, embodies the true scientific spirit of the high calling, and also, that the former name is "cheap and degrading to mineral collectors." Why this is so, I have never been able to figure out. Let us, in the true spirit of the scientific method, subject both to a rather dilettante semantic analysis.

Why people should criticize the term "rockhound" so bitterly, I do not know, unless they consider it an insult to our canine friends. But let us consider for a moment. A hound, taking the last part first, is (as just about anyone can tell you) a lean, lanky, animal, with an insatiable appetite and curiosity. He loves to roam far afield and see new places and new things. Many hounds are used for tracking, so persistent are they when they get just the merest trace of something interesting. A hound has infinite patience, and will dig for hours, with no regard for personal comfort, to disinter a bone or some other article which he may consider valuable. A hound is generally considered a friendly, gregarious individual, who loves the out-of-doors, and is wont to romp and play with great abandon, and to work tirelessly when the occasion warrants it. He sometimes has a very mournful expression (when things are not breaking just right), but can be quickly cheered up by a kind word. He is also very fond of having his ears scratched.

Now it seems to me that this (all but the last, anyway) is a near-perfect description of the average mineral collector (ask their wives and mothers). Man has

been linked with animals since before the dawn of history, and there seems to be little reason why it should be thought "cheap," "senseless," or "horrid" for man to embody the characteristics of an animal (or vice versa). (Look at the colossal success of Clare Barnes Jr.'s "White Collar Zoo," et al.)

Now let us take the other name. The "rock" part is obvious in its derivation. "ology" comes from the Greek "logos," meaning "the study of;" hence, rockology (a word which seems to have been coined, not learned) means the study of rocks. All well and good; certainly any mineral collector is a student of rocks and minerals. But for some strange reason, people seem to shy away from the "ologies." To them these terms hold a horror reminiscent of a bad English mark, or maybe a worse science mark. Anyway, if a mineral collector should mention that he is a rockologist, the average person will say "Oh? How nice" and return to whatever he was doing before the fact was mentioned.

On the other hand, should one mention that he is a rockhound (in a fairly large group), there is generally some wit who will say, "Oh? You track down rocks,?" to which you can answer "That's right." Someone will usually follow that with "That sounds interesting. Exactly what do you do?" and you can take it from there; if you have any proselytizing

skill at all, you should have two or three novices on your club's next field trip, especially if you have a few showy specimens to spring at crucial moments.

We have seen, then, that the average person's interest is aroused (even as yours and mine) by catchwords, and I believe it is the duty of the fellowship of mineral collectors to make their hobby interesting. If we all take a moment to stop and think, we can all remember someone whose interesting presentation of mineral collecting made us decide to give it a try.

I have not tried to convince anyone that one name is right and the other is wrong, believing that "a man convinced against his will is of the same opinion still." Actually, I suppose that if one looks at the conflict in a certain light, he will see that it is rather silly. Within the fraternity, it matters little what the individuals are called. Shakespeare's "What's in a name?" has become almost hackneyed, but it still finds application here. Still, we cannot make our hobby interesting to others if we ourselves squabble over what we should call ourselves. Personal preference should be the only criterion. If a person likes to be thought of as a rockhound (or a rockologist) it matters little; he is still a mineral collector. Let's not throw rocks at each other so fast that we may be missing some of the crystals underneath.

Advertiser Forms New Company

Editor R & M:

I have been advertising in your Magazine under the name of The Gorman Agate Shop for the last year or so. I would like to express my appreciation for the good service extended by your personnel and staff. I would also like to announce that I have joined in a partnership with A. W. Krahmer and that we are calling the new company "Border Agate and Minerals Co."

Am looking forward to the same good service with the new company as I received with old one. Our agent in Mexico—Victor Salgado is bringing a lot of beautiful Mexican Material that we would like to pass on to the Rockhounds.

Harold W. Gorman
Border Agate and Minerals
Co.
4137 Pera Street
El Paso, Texas

Feb. 4, 1955

Has Hematite to Swap!

Editor R & M:

In the Jan-Feb. issue of R & M., there is an item on page 53 in the Collector's Column on Hematite. That's right up my alley. Being a novice R. H., living in Hematite country, I have Specular Hematite in my collection surrounded by Hematite. Have been collecting only for a few months. Have sent Hematite specimens to 6 novices in Nov.-Dec. issue R & M. (5 answered) 65 specimens were sent to novices in the Jan.-Feb. issue. It was mentioned in the column that every collector should have some in his (or her) collection. I have a few hundred pounds of Specular Hematite that's just itching to be in about 300 collectors' collections. Would like to swap Hematite with novices or advanced collectors."

Robert Schenck
Rt. 1, Box 71
Republic Mich.

Feb. 25, 1955

PEGMATITE MINERALS OF THE UNITED STATES

David M. Seaman

American Museum of Natural History, New York City

Article 4, Phosphates, part one

PHOSPHATES (59)

XENOTIME, yttrium phosphate occurs as a rare accessory mineral in pegmatites. It has been found at the Andrews quarry, Portland, Connecticut; with monazite crystals at 185th Street and the Harlem River, New York City, N.Y.; at the Dake mine, Mitchell County, North Carolina; with tysonite in Cheyenne Canyon near Colorado Springs, Colorado; and with rutile in Alexander County, North Carolina.

MONAZITE, is essentially a phosphate of the cerium metals with thorium, yttrium, and silica usually present. It is not uncommon in the mica region of North Carolina. Small crystals have been noted at the Deer Park no. 2 mine near Penland and in crystals to one and one half inches in size at the Dake mine in Mitchell County. It occurs also in crystals at the Ray mine near Burnsville and the Ramsey mine near Toledo in Yancy County, North Carolina. Large masses of Monazite occurred at the Flat Rock mine in Mitchell County and a very large crystal measuring $6\frac{1}{2} \times 9\frac{1}{2} \times 11$ inches and weighing fifty-nine pounds was found at Mars Hill in Madison County. Splendid crystals have also been secured from Millholand's Mill on Third Creek and from Stony Point in Alexander County, North Carolina.

Monazite has been noted in Colorado from the Yard pegmatite near Buena Vista in Chaffee county and from the Colorado pegmatite near Cotopaxi in Fremont county, also from the Brown Derby mine near Ohio City, Gunnison county in excellent crystals.

Elsewhere monazite has been found in large masses up to eight pounds in weight at Amelia Courthouse, Virginia; in the Petaca district of New Mexico; small amounts at the Andrews quarry at Portland and at the Hale quarry at Glastonbury, Connecticut; from Standpipe Hill, Topsham, Maine in small crystals and from the Southern Pacific Silica quarry near Nuevo, Riverside county, California.

TRIPHYLITE, lithium, iron phosphate forms a series with lithiophilite which is typically lithium manganese phosphate. The former is blue gray in color while the latter is clove-brown in color. Both occur most commonly in lithium pegmatites associated with lepidolite, spodumene, amblygonite, lithium tourmalines, and other lithium minerals. Triphylite is the more common mineral.

Triphylite occurs in Maine, New Hampshire, Massachusetts, South Dakota and California. In Maine it has been noted at Peru, Stoneham, Paris, Rumford, and Newry.

Masses to ten pounds in weight have been found at Newry and Rumford. Crystals have been noted at Stoneham and Newry with some from the latter locality reaching eight inches in length.

Triphylite occurs in New Hampshire at North Groton, Center Strafford and Newport. A mass of triphylite ten feet across was found at Center Strafford and large crystals several feet in diameter are quite common at the Palermo quarry at North Groton. Excellent crystals to four inches in length have been obtained from the Smith mine at Newport.

Elsewhere triphylite has been noted at Huntington, Massachusetts; at the Etta mine near Keystone, South Dakota; and at Pala, California.

LITHIOPHILITE, the other member of this series occurs in the same manner as triphylite, the two minerals sometimes being found together. Lithiophilite was first found at Branchville, Connecticut. In Maine it occurs at Poland, Buckfield, and Norway. From Grafton and Alexandria, New Hampshire; at the Faires mine, Kings Mountain, North Carolina; from the Strickland Quarry, Portland, Connecticut; the Etta mine near Keystone, South Dakota; and at Pala, California.

NATROPHILITE, sodium and manganese phosphates was found sparingly at Branchville, Fairfield county, Connecticut.

GRAFTONITE, iron manganese and calcium phosphate occurs in laminated intergrowths with triphylite at Grafton, North Groton, and Center Strafford, New Hampshire; and at Noyes Mountain, Greenwood, Maine. Crystals to 2½ inches in length have been found at the Rice quarry, North Groton, New Hampshire. It has also been noted at the Palermo mine at North Groton, New Hampshire and recently with arrojadite at the Nickel Plate mine in the Keystone district, South Dakota.

WHITLOCKITE, tricalcium phosphate, occurs as a quite rare mineral at the Palermo quarry, North Groton, New Hampshire in association with quartz, rhodochrosite, apatite, brazilianite and a fibrous zeolite. Crystals of whitlockite have been found to an inch in length at this locality.

BERYLLONITE, sodium and beryllium phosphate has been found in two lithium pegmatites in Maine; those from Stoneham in gem crystals about an inch in length, and up to three inches in dimension from Newry. Recently tiny crystals were identified in small vugs in albite at the Smith Mine at Newport, New Hampshire. Stoneham has produced the only gem crystals to date.

BRAZILIANITE, a hydrous sodium and aluminum phosphate, was found in 1947 in excellent crystals to three quarters of an inch in length at the Palermo mine, North Groton, New Hampshire. They were in association with apatite, whitlockite, and quartz. Later in 1949 brazilianite was found as tiny transparent crystals and in translucent groups of parallel crystals to two inches in length at the Smith mine at Newport, New Hampshire. Recent mica mining at the Smith mine in the summer of 1952 has revealed additional brazilianites at this locality.

APATITE, from pegmatites, is a calcium-fluor phosphate. The massive variety with manganese replacing a part of the calcium, manganapatite, is commonly found in many of the pegmatites of New Hampshire, Maine, Connecticut and other states. It is the most common phosphate

mineral in the pegmatites at Black Mountain, Rumford, Maine; at Newry, Maine; Portland and Haddam Neck, Connecticut; the Harding mine, New Mexico; at Grafton and Unity, New Hampshire, at Thomaston, Georgia; and elsewhere. This variety of apatite often fluoresces an orange color under ultra violet light.

Purple apatite in good crystals is not very common but they have been found chiefly in lithium pegmatites often associated with colored tourmalines. Mt. Apatite at Auburn, Maine is the world's most noted locality for deep purple gem crystals. Crystals from this locality have reached two inches in diameter. This variety of apatite has been found elsewhere in Maine at the Berry quarry, Poland; the Harvard quarry Greenwood; and Mt. Rubellite at Hebron. Purple apatite has been found at Center Strafford, New Hampshire and a few light colored crystals have been found at the Smith mine near Newport in the same state. Deep purple crystals to 1½ inches in diameter have been found at Portland, Connecticut. Other purple apatites have come from the Himalaya mine at Mesa Grande and the Mack mine at Rincon, California. About two years ago excellent gemmy purple apatite crystals were found at a small prospect near Glendale, South Dakota. Some purple apatites also fluoresce a yellowish orange color under the action of ultra light as those from Auburn, Maine and from Glendale, South Dakota.

Excellent blue apatite crystals to 1½ inches in diameter have been noted from Auburn, Maine. Zoned apatites with a blue center, then colorless and with a purple outer zone have been found at Branchville, Connecticut. Apatites with a pink center and a purple outer zone were collected by the writer in 1935 at Mt. Rubellite, Hebron, Maine. The zoned apatites have been noted chiefly as thin, tabular crystals in lithium pegmatites.

True pink apatites have been found at Mesa Grande, California and a single tiny, transparent pink crystal was collected by the writer at a small opening in pegmatite near the Fisher quarry at Topsham, Maine in 1951.

Colorless or white apatite crystals are known from a number of scattered localities: the Fisher quarry, Topsham, Maine; Bennett Quarry, Buckfield, Maine; Mt. Rubellite, Hebron, Maine; the Strickland quarry, Portland, Connecticut; Palermo quarry, North Groton, New Hampshire with brazilianite; at Mt. Antero, Colorado: etc.

The hydrous variety of apatite, voelckelite, has been found at Grafton, New Hampshire while the carbonate apatite, francolite, which occurs in crystalline, radiated, stalactitic masses has been found coating eosphorite at Black Mountain, Rumford and at Poland, Maine; and recently at the Smith mine at Newport, New Hampshire. Dahllite, another carbonated phosphate, has been noted at Buckfield, Maine.

The common greenish-blue apatite crystals are found at many localities including the Celo mine near Burnsville, North Carolina with Kyanite; dark greenish-blue crystals to four inches in diameter at the Harding Mine, New Mexico; blocky crystals to eight inches in diameter in the School Section pegmatite near Canon City, Colorado; and elsewhere.

TRIPLITE, a fluo phosphate of iron and manganese, occurs as a quite rare mineral chiefly in lithium pegmatites; at Pala, California; the Etta mine near Keystone, South Dakota; Morefield mine, Winterham, Virginia; Stoneham and Auburn, Maine; and the Swanson quarry, Haddam Neck, Connecticut. It has also been found at Mt. Loma and from the 7 U 7 ranch, Arizona; from the Reagan mining district of White Pine county, Nevada. Triplite has been found in some quantity in Colorado in Fremont county in the School Section and Mica Lode pegmatites. Large crystals to four inches in length were found in the Mica Lode pegmatite in 1947 while masses to six inches across were found in the School Section pegmatite. Pods of triplite to two feet in length were also found at the Mica Lode deposit where ten tons of triplite were stock piled.

GRIPHITE, a hydrous sodium, aluminum, calcium, iron and manganese phos-

phate with a structure similar to that of garnet occurs near Harney City, Pennington county, South Dakota.

TRIPLOIDITE, a fluo phosphate of manganese and iron with fluorine replaced by hydroxyl, has been rarely noted in pegmatite from Branchville, Connecticut; and the Palermo quarry, North Groton, New Hampshire.

WOLFEITE, is designated for the iron end of the triploidite-wolfeite series. It occurs as a hydrothermal alteration product of triphylite at the Palermo quarry, North Groton, New Hampshire.

SARCOPSIDE, a complex iron, manganese, calcium fluo-phosphate has been found in a small pegmatite dike at Deering, New Hampshire.

HERDERITE, a hydrous calcium-beryllium fluo-phosphate occurs principally in the lithium pegmatites of Maine with lepidolite, lithium tourmalines and other minerals. It also occurs with triphylite at the Palermo and Fletcher mines near North Groton, New Hampshire. In Maine it has been found at Buckfield, Hebron, Stoneham, Newry, Topsham, Greenwood, Paris, Auburn, and Poland. Crystals from Mt. Apatite at Auburn and from the Fisher quarry at Topsham, Maine have reached nearly two inches in length. The material from Newry, Maine occurs in small botryoidal masses in vugs in cleavelandite.

GOYAZITE a basic phosphate of aluminum and strontium was first found in pegmatite at Stoneham, Maine (hamlinite) with herderite, bertrandite, etc. It has since been noted at Paris, Greenwood, and Buckfield, Maine and recently in small crystals from the Palermo mine, North Groton, New Hampshire.

AMBLYGONITE, a fluo-phosphate of lithium and aluminum, occurs commonly as cleavable masses and more rarely in large coarse crystals in lithium pegmatite usually associated with albite, lepidolite, lithium tourmalines, and other lithium minerals. It resembles albite very closely in appearance but it has a much higher specific gravity.

Large masses of amblygonite have been mined from the pegmatites in the Black

Hills of South Dakota for their lithium content. One mass from the Bob Ingersoll mine near Keystone yielded nine hundred tons. Another mass was mined at the nearby Peerless mine which measured 20 x 40 x 20 feet. Still another mass of amblygonite was mined from Giant-Volney mine near Tinton, South Dakota which measured 4 x 20 x 8. Smaller masses have been noted at Tin Mountain, South Dakota. Elsewhere a mass of amblygonite from Newry, Maine weighed nearly five hundred pounds.

Crystals of amblygonite to several inches in size have been found at Tin Mountain near Custer and to one and one half feet at the Ingersoll mine, South Dakota. Smaller crystals have been found at Greenwood, Hebron, Rumford and Newry, Maine; at the Schoonmaker mine, Portland, Connecticut; and at some of the California localities. Glassy crystals have been obtained from Rumford, Maine to two inches in length and from Newry, Maine to nearly five inches in length. At Newry the terminations of the crystals were transparent for short distances. Amblygonite has also been noted in Maine from Peru, Paris, and Auburn.

Amblygonite occurs at Pala, Rincon and Aguanga, California; at the Palermo quarry, North Groton, New Hampshire and in small twinned crystals from the Smith mine at Newport, New Hampshire. It has been found sparingly at Branchville, Connecticut and recently from Mitchell Wash, Yavapai county, Arizona.

FREMONTITE, a sodium, lithium, aluminum, fluo-phosphate has been found at a single locality near Canon City, Fremont county, Colorado.

FRONDELLITE, a hydrous manganese and iron phosphate forms a series with **ROCKBRIDGEITE**, a hydrous, iron and manganese phosphate. Both occur as secondary minerals in limonite deposits and as alteration products of triphylite or other manganese-iron phosphates in pegmatite. The ferroan end or frondellite has been found with metastrengite at the Fletcher mine, North Groton, New Hampshire. Rockbridgeite occurs as an alteration of triphylite in pegmatite at the Fletcher and Palermo mines, North Groton, New Hampshire.

The phosphate group will be concluded in the next article.

Collector's Column

Conducted by A. Cal Lector

This column, designed to be a help to beginners in mineralogy, began with the September - October 1948 issue. In the last issue we discussed Hematite. This time we will study Kaolin, or Kaolinite as it is sometimes known, one of the clay minerals.

Kaolin

Kaolin is a hydrous aluminum silicate that is derived from decomposition of aluminum bearing minerals, especially the feldspars, in rocks of the granite and gneissoid type. It is usually found as white earthy masses, easily crushed and soiling the fingers. It may also be stained red, brown or black. Crystals of Kaolin are rarely seen and then as microscopic six-sided plates. The hardness is about 2 to 2.5 on Moh's scale. There are three minerals, Kaolinite, Dickite and Nacrite that have

the same chemical composition and a similar appearance. It is almost impossible to distinguish between these except by X-ray and other special tests. However, Kaolinite is the most common.

Kaolin is widely used in ceramics for making pottery or stoneware and the purer material is used in fine china. It is the most refractory of all clays. Kaolin is also used as a filler in paper and rubber.

The name Kaolin is a corruption of the Chinese, Kauling, meaning big ridge, the name of a hill near Jauchan Fu where the material was found.

Kaolin has been mined at Newcastle and Wilmington, Delaware, and other eastern states such as Georgia and Florida. The writer has a specimen from Twiggs Mountain, Georgia.

World News on Mineral Occurrences

Items on new finds are desired. Please send them in.

Abbreviations: xl—crystal

xld—crystallized

xline—crystalline

fl—fluoresces

ph—phosphoresces

ALABAMA—William M. Johnson, RRD 6, Knoxville, Tenn., sends in a note telling us that a short distance northwest of Dudleyville, Tallapoosa Co., Ala., is found a deposit of corundum that is mostly loose in the soil.

ARIZONA—"Under separate cover I am sending you another Yuma County mineral. Look it over as it is a most interesting specimen; also fires up under the Black Light.

"The weather is cooling off a little in our area and we are able to pick up rocks without tongs. We will be out every weekend during the winter months and will try to find something new to send in, including sand, of which we have a lot.

"Received a nice letter from a novice in Ohio who found my name in R&M. Was glad to send him some Yuma County specimens. That Novice Column is a very nice gesture of R&M. Also like the Fossil Dept."—letter dated Oct. 21, 1954, from Earl U. Mayer, 1753-1st St., Yuma, Ariz.

The specimen received comes from Trigo Mts., Yuma Co., Ariz. It consists of tiny reddish-orange vanadinite xls, yellowish wulfenite xls, tiny grayish willemite xls (fl. green under the Mineralight), and argentiferous galena.

ARKANSAS—The following item, dated Feb. 17, 1955, was sent in by Byron C. Marshall, prop. Ozark Biological Laboratories, 204 Central Ave., Hot Springs National Park, Ark.

"Quite recently, the Tridymite form of quartz has been found near Mount Ida, Montgomery Co., Ark. These are beautiful single xls and aggregations of such single xls. So far as the writer is aware, this is the first record for

Tridymite for Arkansas." The xls are tiny, clear, and a listing has been made by Mr. Marshall who writes:

"Enclosed is a listing I have gotten around to make up which will give you an idea of how fantastic these Tridymites really are. They are just about the most interesting quartz I have yet seen."

CALIFORNIA—The limestone quarries in Crestmore Riverside Co., Calif., considered to be the 3rd greatest mineral locality in the world (outranked by Langban, Sweden (1st) and Franklin, N. J.,) continue to produce interesting minerals. We are most fortunate to have a subscriber located in the area and who has kindly sent in the following notes, dated Nov. 18, 1954 (from Peter B. Nalle, 4600 Indian Hill Rd., Riverside, Calif.):—

"I will try to bring you up to date on Crestmore, California. Currently I am working for the Riverside Cement Company as the Assistant Mine Superintendent. We are operating in two areas at Crestmore. One is our Jensen Quarry which is about 4½ miles from the plant and the other is our chino limestone bed at the plant.

"I am sorry to say that because of our renewed activity in the Chino limestone area, we have closed the Commercial and Lone-star quarries to collectors. We feel that with blasting and operating in such close proximity, there is a chance that some one might be hurt and we do not feel the risk is worth the small gain. Our Jensen quarry has always been closed to collectors because we operate it on a 'round the clock basis, seven days a week.

"As for minerals, most of the famous Commercial area has been pretty well picked over. The Chino limestone which we are mining near Commercial has few of the interesting minerals found in the other quarry. I do run across some sulfides from time to time and of course there are the usual garnet, epidote and wollastonite. Also brucite and blue xline calcite. These are not particularly showy as specimens and they are frequently damaged by blasting.

"Our Jensen quarry has just about the

same series of contact minerals as the Chino limestone. Garnet, wollastonite, epidote, diopside, brucite, members of the olivine group and blue and white calcite cleavages. I did find in the Jensen pit in an area which has now been mined out a rather nice pegmatite dike with a pocket containing good quality tourmalines and quartz. The tourmaline was both green and red and well crystallized. Some was suitable for cutting and some showed the typical watermelon type zoning. All together, we got about half a pound of material from the cavity. I have not seen another like it and the particular dike cut off at depth so I don't expect to see any more tourmaline except the black schorl which is common all over the countryside.

"I am telling you about the tourmaline because I have not heard of any gem quality material being reported this far north of the famous Pala-Rincon area. I did not see any of the usual lithium minerals in the dike.

"I am sending you a few of the type minerals we have available in the hope that you might find them interesting. Should you ever get out to California and if you would like to see our quarries, of course I would be glad to show you around. Just let me know a little in advance so I will be sure to be around.

We have nothing suitable for cutting, and our quarries, at least for the time being, are officially closed to all collecting so it does no good to come unannounced to the main office."

COLORADO—Pat Fancher, Ouray, Colo., has another note on an interesting mineral found in his state. The note reads:

"Unusual 'pine cone' xls of quartz from San Juan Co., Colo. Quartz terminations about one inch in diameter and one inch high were completely covered by later paralleled xls pointing toward the apex of the large xl. It looks for all the world like a small pine cone except that it is milky white. They were found in a crevice in a huge boulder that had been blasted from a road cut, so I cannot orient the manner of deposition."

CONNECTICUT — The following item, dated Sept. 8, 1954, was sent in by Richard Schooner, P.O. Box 215, East Hampton, Conn. We are sorry it could not have been printed sooner—too many items have been sent in for Connecticut. The item reads:

"Several months ago, on a visit to East Hampton, David M. Seaman, noticing some cleavages of a bright reddish-brown mineral in my collection, indicated his belief that they represented manganocolumbite or manganotantalite. They had been collected at the Strickland quarry in Portland, Conn., and I had assumed that they were the 'hyacinth-red monazite' to which a few authors have referred. A highly perfect cleavage had been partially responsible for the forming of such an opinion.

"At about the same time, Ronald Januzzi, of Danbury, Conn., showed me a large mass of the same mineral, which had been collected by Wilbur J. Elwell, also of Danbury. Mr. Seaman also identified it as manganotantalite, which had been reported from the locality in 1929, by Dr. Wilbur Garland Foye. I was not thoroughly convinced, at first, because I could find no reference to a perfect cleavage in tantalite—not, at least, in any of several reliable books which I had on hand. Subsequently, Mr. Januzzi submitted a sample for analysis and it was found to be columbite-tantalite, with the latter molecule predominating and with 13.96% of MnO.

"A few weeks ago, while chiseling some rather large cleavages of amblygonite out of the lower east wall of the Strickland quarry, I uncovered some more of the manganotantalite. It was associated with amblygonite, cleavelandite, gray quartz, and light yellow microlite. Deep purple lepidolite, black (uranian) microlite, spodumene, its friable alteration product, pinite, and green and pink tourmaline, in poor crystals, were found in the same spot.

"The lithium minerals obviously occur as a vein, only the upper ends of which were exposed. The face of the wall, otherwise, consists of very ordinary pegmatite, but the lithium zone is just a few feet beneath it. The entire concentration of lithium minerals, in that portion of the quarry, is evidently along a crack, several feet in width, through

the earlier material of the dike, not more than a few yards from a contact with the Bolton schist. The edges of the aforementioned zone are sharply defined, or were before a number of collectors went to work on it!

"Getting back to the manganotantalite, perhaps I should describe it in more detail. It ranges from an almost transparent red, looking much like gemmy garnet, to a submetallic brownish-black, the variation in composition (or, more specifically, in the ratio of iron to manganese) probably being exemplified in the zoning of colors. I have one small group of half inch parallel red crystals in quartz. The luster is resinous, and the faces have an iridescent tarnish of the type which is often seen on ordinary columbite. Highly modified pale yellow crystals of microlite are attached to one side. The increase in manganese, in this tantalite, evidently improves the cleavage, which could only be described as perfect. Very thin plates of the reddish material can be seen transecting masses of amblygonite. One piece has a $1\frac{1}{2}$ " cleavage and a small group of crystals, but the Elwell specimen collected many years ago, is considerably bigger and richer.

"I am not claiming any sort of credit for discovering this manganotantalite, actually, as already stated, Professor Foye, of Wesleyan University, wrote about it in 1929. However, I believe that these notes will be of some interest to those readers who have occasion to visit the Strickland quarry. Small crystals and masses are often encountered in two or three of the old dumps."

DELAWARE—Some interesting baculites (fossils) have been found in soft marl near Delaware City, New Castle Co., Del., by Leonard A. Morgan, 217 S. Atlantic Ave., Haddonfield, N. J. The marl had been dug out of a dredged canal.

DISTRICT OF COLUMBIA—John O. Griesbach, 12217 Centerhill St., Wheaton, Silver Spring, Md., sends in some

notes on the District. In his letter, dated Dec. 26, 1954, he writes:

"I enjoyed Mr. French Morgan's article concerning the silicified cypress wood from the N.E. section of D.C. (Puzzling Petrification, Nov.-Dec., 1954, R&M pp. 563-568). He gave me a very fine specimen of the wood sometime back. Incidentally, the drusy quartz xls on it show good cellular wood-structure themselves under a microscope at +50 diameters or better, deep within the individual xls—most unusual. And, there is a pale greenish to blue-white fluorescence on the fresh surfaces especially around worm—or wood-borer—beetle holes; besides a definite orange fluorescence on the drusy surfaces."

FLORIDA—Howard B. Graves, Jr., 826 S. Ingraham Ave., Lakeland, Fla., has sent in a large assortment of Florida minerals... samples of what he is offering collectors in his unique monthly plan. Among the specimens were the following (all from Bartow, Polk Co., Fla.):

Limonite: Dark brown cellular mass encrusted by earthy, yellowish limonite. From the Bone Valley formation south of Bartow:

Vivianite: Greenish, although green, rather than blue, most of this material is vivianite. It occurs with pseudowavellite which is white and claylike.

Fossil bone: Brownish, loose bone (petrified). This comes from the phosphate mines south of Bartow. These occur in the Bone Valley formation of Pliocene age. A few are hard and may be cut and polished but are not very colorful.

GEORGIA—"Herbert Giles reports a new locality for rose quartz in Cobb County, north of Atlanta, Ga. To reach this locality, take the Access Highway from Smyrna toward Belmont Hills, going to a point about $1/4$ mile from Belmont Hills. Then take an unimproved road (soil road) toward the East and go somewhat less than $1/4$ mile. The rose quartz occurs with milky vein quartz."—From Georgia Mineral Newsletter, Winter 1954, p. 167 (Dr. A. S. Furcron, Editor, 425 State Capital, Atlanta, Ga.).

IDAHO—In the last issue, mention was made of two minerals sent in by Clarence Martin, R 3, Blackfoot, Idaho. Two additional minerals were received from Mr. Martin, as follows:

"No. 1. This piece was picked up from the dump of the old Lemhi Union mine in Lemhi Co., Idaho."—A nice specimen of black biotite with greenish feldspar

"No 2. This mineral lies 20 miles due east of Blackfoot in Bingham County. There is a large and very beautiful vein in a dark limestone cliff"—brownish xline calcite.

G. Elmo Shoup, Box 756, Salmon, Idaho, sends in the following notes, in his letter, dated Dec. 27, 1954:

"Clark & Evans have started exploration work on some abandoned gold and silver claims 4 miles west of Salmon (Lemhi Co.), Idaho, where they struck some minor radioactive ore. A road was built into the mine, and they are now opening one of the main drifts.

"Exploration on the Gibbonsville uranium properties, Dahlenega District, Lemhi Co., Idaho, through the new lower drift which will tap the upper rich ore. A new road has been put in and a number of open cuts on the surface have been put in the last few months. (See report on p. 463, 'Idaho', R&M of Sept.-Oct. 1954)."

ILLINOIS—The following notes were sent in by Byron C. Marshall, 204 Central Ave., Hot Springs National Park, Ark. They are dated Feb. 12, 1955:

"I wish to describe a very remarkable specimen from the fluorspar section of southern Illinois. I do not know from which mine this specimen came, but it is most probably from Hardin County, as most of the fine specimens of the past came from the mines of that county. This was obtained about ten years ago. As a dealer, it has been my privilege to handle hundreds of fine specimens from the southern Illinois section.

This is the only specimen I have ever had from there that is an association of as many as six different minerals, plus what must be bitumen. And too, the specimen is a small one. A jewel,—

one of nature's best. It is only one inch high, by two inches wide, by three inches long. The first to form was bright, whitish to almost clear, quartz crystals. These from 3/16 inch, down in size. Next, seemingly the galena and fluorite formed at about the same time. Although the galena crystals cannot be seen very well, as they are quite covered up by other minerals yet to be mentioned, they seem to be modified cubo-octahedrons of a type I don't think I have ever seen before. The largest seem to be about one-half inch. There are four fluorite crystal cubes of a pale, translucent, lavender, the largest about three-fourths inch to the side, and the others not much smaller. Then there are a very few much smaller ones, otherwise the same. Their surfaces show quite a degree of etching into smaller cubic patterns. The quartz, galena, and fluorite might be called the first stage of development, and from appearance, could have simultaneously formed. It could have been, however, that the quartz preceeded.

"Next, sphalerite as crystals and aggregates of crystals, formed. Most are of the jet, shiny, black variety, though there are a few very small crystals of translucent yellow-amber, and a few others, tiny, of translucent ruby. This zinc is so thick it nearly covers up the quartz and galena, and crowds around the much larger fluorite crystals.

"The next to attach, were several small but dense patches of quite transparent barite crystals. These patches are mostly on the zinc, but some on the fluorite. The largest crystals are about 1/16 inch, so these patches are almost drusy.

"The last mineral to form as a member of this unique association was the calcite. This is represented by mostly doubly-terminated crystals, almost slender enough to be typical 'dog-tooth' variety. They are comparatively few in number, are an opaque white with the faintest suggestion of a yellow tint, and up to 1/8 inch length. Some rest entirely on top of the barite, and most are on the fluorite cubes, though some are over the barite on the zinc, and a few reach over to partly rest on the lead. Fluoresces a

nice medium pink under the black bulb.

"Then as though this show of multiplicity was still not enough, there are two blotches of what I feel quite sure are the bitumen form of petroleum. It is well known that this dried oil is sometimes present on fluorite specimens from southern Illinois. I have had several such in the past. One of these daubs is about one-half inch, and the other about 5/16 inch. One is right on the center top of a fluorite cube, and the other is mostly on the zinc, but climbs up the oblique face of another fluorite cube. Both seem to have many small barite crystals incorporated in the mass which would seem to argue that the oil intruded while the barite was yet forming. The petroleum then dried into bitumen.

"Thus we have portrayed before us a miracle of fantasy. A whole flotilla of mineral species. A lavish flaunting of pleasing and contrasting colors. As an association an almost unthinkable complexity of electron and molecular arrangement, not to mention the chemical complexity of the whole. Can one behold the enormity that is thus represented in one small specimen, and not think twice, thrice, or a hundred times, in the speculation of the prodigiousness involved? Can one fathom the meaning of the time element represented? Our brief existence makes this almost impossible. Again, why should such beauty in color and arrangement, such intricate designs, such a drama of consequence, have gone on in the darkness of the quiet void? Or can it be that this is the mere assumption of our feeble minds? That in reality, there is no darkness, no void. Let us let it rest! May we assume that every thing is possible. And let us feel joyful, that in the course of events, we have been appointed to behold some of the marvels of this great universe.

"This specimen under the Sylvania Light, has the most beautiful, bright, medium, purple-blue (violet) fluorescence. It is the fluorite that responds. This Sylvania Light, is a long wave of about 4000 Angstrom units. It is about as vivid as the famous fluorite from the

Keller, Washington, mines, so you know it must be spectacular. Much of the fluorite from southern Illinois responds wonderfully under the Sylvania Light, but this particular specimen is the best I have yet seen from southern Illinois."

INDIANA—Our good friend in Indiana, Walter Reeves, R 3, Greenville, Ind., sends in some more notes in his letter dated Jan. 9. 1955. He writes:

"I recently picked up on a hillside south of Bloomington, Monroe Co., Ind., what I consider an unusual geode.

"The inside had a beautiful white frosted appearance with strontianite xls scattered over it. Only one of kind I ever saw. Strontianite occurs in the Rogers quarry near Bloomington.

"Also came into possession of a fine specimen (by purchase) of crinoid from the once famous locality at Crawfordsville, Montgomery Co., Ind.

"It consists of a perfect head and long stem on a slab of bluish shale.

"I visited this locality several years ago in company of an elderly man of Crawfordsville who knew the locality when the crinoids were abundant but we could not find a trace of one."

IOWA—A few weeks ago we received a number of specimens for examination from Michael Papcun, RR 1, Melrose, Iowa. Among them were some attractive needle-like xls of black goethite which came from his area (Melrose is in Monroe County). The following letter, dated Feb. 2, 1955, is from Mr. Papcun:

"Your report of Jan. 8th identifying the minerals I sent you Dec. 12, 1954, received and many thanks. Do hope that the report of my find of Goethite needle-like, from this locality may appear in the R&M March-April issue, Mineral Occurrences. May this additional information about the find be more helpful.

"I chanced upon some nodular septaria-like masses of grey rock that appeared to be veined with some other mineral throughout. Being curious what might be inside I struck a hard blow with my rock hammer and the mass broke

like an egg-shell into many irregular pieces exposing the interior, which in part was a cavity of crystallized calcite of different colors, studded with jet-black Goethite needles. I was spellbound and certainly surprised what I found.

"There were several of these nodular rocks about so I resumed breaking them open and when I finished I had about a hundred specimens of all sizes of different combinations and colors. Several specimens have a crystal or two of gemmy transparent smoky quartz, ranging from a light yellow-brown to brown and a few of these quartz crystals have Goethite needles penetrating them. These, I presume would be superb micromounts. All specimens have Goethite, singles, pairs, fan-shape clusters, radiating burr-like masses and a few flattish rosettes, in crystallized calcite, the colors varying in specimens. Some have frost-like Aragonite coating the calcite and other specimens have imbedded in the calcite spherical knobs of some other mineral, probably calcite or dolomite ranging from yellowish brown to reddish brown and a few of these spherical knobs have Goethite needles protruding from within. Hardly any two specimens are alike, but all beautiful.

"I was very fortunate in obtaining two large specimens about 6 x 8 inches from one mass that just more or less split open a large cavity into two pieces, both of these have a large amount of Goethite needles. The calcite on one of these pieces is covered with a white and yellow film and the other piece is studded with many brown smoky quartz crystals—a few singles and some groups of twinned crystals.

"Since finding the Goethite, I have also found about 400 lbs. of petrified wood in one spot, down in a gully. Seems to me that this wood would polish. It is a tan color and straight-grained, a few chunks are reddish. The pieces range from chips to ½, 1, 2, 3, 5 lbs. and some are larger even up to 20 lbs.

"Again, I want to thank you for your help and cooperation and in the meanwhile I will be out looking for whatever else I may find."

KANSAS—Nice agates have been found near Medicine Lodge, Barber Co., Kans.

KENTUCKY—Native copper has been found in the Russell Cave shaft in Fayette Co., Ky. Can any reader give us some information on the occurrence?

LOUISIANA—Tiny pyrite xls and tiny casts of pyrite after fossils, mounted in a slide, have been received from Mark W. Mitchell, 820 Tulane, Lafayette, La. These tiny specimens are most interesting.

"I am enclosing a slide of some pyrite crystals taken from oil well cuttings from depth of 2800 ft. on the Vinton Salt Dome, Calcasieu Parish, La. The pyritized plant stem and gastropod casts may be of interest."—Letter dated Dec. 11, 1954, from Mr. Mitchell.

MAINE—A recent letter from Ernest E. Fairbanks, 44 Carll Ave., Old Orchard Beach, Me., had this interesting item:

"*Webster's quarry*" South Sanford, York Co., Me. Large crystals of perovskite. Have made many visits to this locality without finding perovskite. Found them by digging through the waste dump of the late Prof. Webster without suffering much from the poison ivy."

MARYLAND—Ray Garst, R1, Frederick, Md., has sent in a nice specimen consisting of brassy chalcopyrite in white cleavable barite with green malachite. The locality for the specimen is the old Liberty copper mine, 1½ miles northwest of Libertytown, Frederick Co., Md.

MASSACHUSETTS—An anonymous subscriber has sent in an item which might result in the finding of interesting minerals, should some collector pay the locality a visit. The item reads:

"A hill of hard, seamy granite 65 feet high, 100 feet wide, and 600 feet long, located between two sections of a new highway near South Billerica, Middlesex Co., Massachusetts, was bro-

ken to grade level on August 19, 1954, by the largest single blast ever made on a New England highway construction project."

MICHIGAN—Black platy masses of hematite (specularite) were found in a road cut through ridge just west of Felch, Dickinson Co., Mich. A nice specimen from the locality was sent in some few months ago by Walden P. Pratt, 108 Stanford Village Stanford, Calif. The locality was described in Mr. Pratt's interesting article—"Some Mineral Localities in Central Dickinson County, Michigan," July-Aug., 1954, R&M, pp 345-350.

MINNESOTA — From the Pocono Mineral Shop, 21 Park St., East Stroudsburg, Penn., we have received a nice polished slab of marble. It is tan colored, with some red in spots. It comes from the marble quarries of Kasota, Le Sueur Co., Minn., and is known in the trade as "Kasota Stone."

MISSISSIPPI—Fossil leaves have been found in Perdue's Cut, near Meridian, Lauderdale Co., Miss.

MISSOURI — In a cave in Camden County, Mo. (west of Linn Creek) there is a pillar of onyx which has a diameter of 45 feet and a height of 40 feet.

MONTANA — Nice orthoclase xls have been found at Renova, Jefferson Co., Mont.

NEBRASKA — Pumice, the cellular glassy form of lava, occurs in Orleans, Harlan, Co., Nebr.

NEVADA—Nice bluish-green masses of chrysocolla have been found in the Belted Range, Nye Co., Nev.

NEW HAMPSHIRE—Native arsenic, associated with arsenopyrite and pyrite, has been found in thin layers in a dark blue mica schist at the old tin mine in Jackson, Carrol Co., N. H.

NEW JERSEY—The following note, dated Jan. 28, 1955, comes from Clark P. McLean, 31 Main St., Bloomsbury, N. J.:

"A mineral that I have collected recently is one that hits 4 on the 20 scale of the geiger-counter although it is about 1/4 inch in size. I found this one on the dumps of the Royal Green Marble Quarry, (a serpentine quarry) just outside Phillipsburg (Warren Co.), New Jersey. It is an isometric crystal, quite rough, and has tentatively been identified as either thorianite or uraninite by Dr. Montgomery, associate professor of mineralogy at Lafayette College in Easton, Pa. Since then I have found about three more, but massive. I have given them all except one to Lafayette. They are found in a drab calcite and serpentine. Much molybdenite on serpentine is also found—it is quite abundant if you know what to look for."

A letter from Dr. Montgomery, dated Feb. 28, 1955, has the following note on the find:

"I believe the xls to be uranoan-thorianite, though not yet identified definitely by X-ray powder photo. They are rounded but good crystals showing cubo-octahedral habit. "I have tentatively identified them as uranoan - thorianite crystals and will determine definitely later. Crystals are of good size—1/4 inch—and represent a first-class bit of mineral collecting."

NEW MEXICO—Very fine specimens of leaf and wire gold, some enclosed in transparent calcite, have been found in the New Placer district, Santa Fe Co., N. Mex.

NEW YORK—One of our readers has sent in an item relative to a 5800 foot long tunnel that is being driven in Erie County, New York, to tap water from the Niagara River. The tunnel (in the town of Tonawanda) is through limestone. We hope one of our readers may visit the locality and report to us on any minerals found.

NORTH CAROLINA—Not long ago we received from Col. Orville M. Hewitt, 6 East Forest Road, Biltmore Forest, Asheville, N. C., a nice rhodolite (pinkish xl masses in mica schist). The locality for the specimen is Sugar Loaf Mt., Willits, Jackson, Co., N. C.

NORTH DAKOTA—Lignite occurs near Haynes, Adams Co., N. D., and has been mined.

OHIO—"We are amateur rockhounds. We had never heard of quartz 'diamonds' being found in our locality so were surprised when one of our club members (Firelands Geological Club, Norwalk) showed us one that he had found in the creek where someone had been breaking rocks. We made a trip to the creek (a tributary of the west branch of the Huron River, near Blue Bridge, north of Monroeville, Huron Co., Ohio), several weeks ago. Ordinarily there is too much water to do much collecting as the banks are steep, rising directly from the water, but it has been very dry here this summer, so there was no water at all. We broke open several rocks that resembled the septaria pictured in R&M, May-June 1954, p. 242, except that they were not rounded so much—they were more angular. Only one had quartz crystals that were doubly terminated and loose like Herkimer 'diamonds.' There were several hundred but only a few near perfect ones (specimen 1). There were many attached crystals. There were various other minerals in seams in this concretion, some in crystal formation, others not. We are sending some specimens from this one concretion. The others are similar in appearance and have seams, and sometimes cavities.

"We have made several trips to the locality since then but did not have such good luck. Last Friday we looked along the river. One of the rocks we broke had a few attached crystals (doubly terminated) but no loose ones. They reflected the colors of the rainbow that the others didn't. No fossils have been noted. The round concretions so often seen in yards around Norwalk can be

seen protruding up in the shale banks."—letter dated Oct. 12, 1954, from Mr. and Mrs. Clarence Carey, P.O. Box 54, Collins, Ohio.

The following specimens were received:

No. 1. Samples of quartz "diamonds"—(Small, colorless, doubly terminated rock crystals).

No. 2. Weathered exterior showing seams. (Brown limestone).

No. 3. Blue-gray interior with crystals. (Brown calcite xls).

No. 4. Blue-gray rock with layers and quartz crystals attached. (Doubly terminated rock crystals on xled brown dolomite on dark gray limestone).

No. 5. Quartz crystals attached—matrix corroded or coated. (Doubly terminated rock crystals with earthy, brown limonite).

OKLAHOMA — Boodle Lane, Box 331, Galena, Kans., has donated a very fine galena specimen—a square-shaped mass showing cube and octahedrons. The specimen comes from the Grace Walker mine, Picher, Ottawa Co., Okla.

OREGON—Hematite (specularite) is found on Burnt River divide, near Sumpter, Baker Co., Ore.

PENNSYLVANIA—In a letter dated Dec. 13, 1954, from Claude E. Golden, Rt. 4, Easton, Pa., he writes:

"I did make a little find of a new mineral for this area and under separate cover am sending a specimen—piece of aragonite onyx and a small piece of colorless fluorite which fl. yellow under the long wave light.

"I have also a few pieces of xled aragonite. It is in the form of small coral and varies from yellow to white. According to what I can find about it, it is the so-called 'flos ferri'. A little later I will send a piece for you to verify.

"These specimens are from the old Durham iron mines, located in Durham, Bucks Co., Pa.

"There has been a lot written about the jasper quarry at Durham but as yet

I haven't located any of the jasper, although I live only 3 miles from there. There are quite a few old iron mines in Durham that are rather well grown over."

A second letter dated Dec. 14, 1954, reads:

"Just wrapped the specimen of flos ferri and am sending it along with this letter. This is the first time I have come across it and it may be something that could be used in trading with other collectors.

"The Durham iron mines were operated during the Civil War and the pigs were shipped to Philadelphia by way of the canal that follows the Delaware River.

"The Durham paper mill changed a water course (wast water) into an old cave and a new hole was opened at the side of the cave. This uncovered the aragonite and that is where the fun began. All the rockhounds of Lafayette College (in Easton) have been operating in these parts and they never found the aragonite.

"The first trip uncovered only the aragonite onyx and there was lots of it. The last trip to Durham was made with Mike Molnar of Hazleton and Nick Holly of W. Hazleton, both R&M subscribers. The digging was actually hard work, as the hole wasn't very large in which to use a pick and sledge hammer.

"Then came the surprise! In trying to break the onyx off the parent rock, there appeared to be weathered cracks in it. On breaking open these cracked areas, the fern-like xls of aragonite burst into view. Mr. Molnar gave one look and then yelled out 'Flos-ferri'!

"The flos-ferri is all in cavities about the size of a large fist, almost in geode-form. I gathered quite a bit of it."

Mr. Golden made some interesting finds. The onyx is a grayish, banded mass and should take a good polish. It fl. yellow-green under the long wave lamp.

The flos-ferri is a brownish, coralloidal mass.

RHODE ISLAND—Red jasper pebbles have been found in drift near Bristol, Bristol Co., R. I.

SOUTH CAROLINA—Fine crystals of amethyst have been found in mica schist in the Bowen River basin, Cherokee Co., S. C.

SOUTH DAKOTA — At Milbank, Grant Co., S. D., granite is quarried. A beautiful specimen of this material, one face polished (dark red and black granite, known in the trade as Dakota Granite) has been received from the Pocono Mineral Shop, (Charles Litts, prop.), 21 Park St., East Stroudsburg, Penna. The polished face shows small patches of bluish opalescence.

TENNESSEE—Knoxville, Knox Co., Tenn. is famous for its marble quarries. The Pocono Mineral Shop, 21 Park St., East Stroudsburg, Penn., has sent us 4 polished slabs from the area; they are labelled as follows: Endsley Pink Marble (reddish-pink); Endsley Cedar Marble (dark red); Champion Pink Marble (pinkish); and Endsley Taver-nelle Marble (grayish, speckled with brown).

TEXAS—

"In September, 1952, Tedd N. Crow and Kenton Jones, two young men who have started collections, sent me samples which I shall mention, from their home town section of Edinburg, Hidalgo, Co., Texas. This is in the extreme southern part of Texas, not far from Brownsville, in the Lower Rio Grande Valley and on the Mexican border. They informed me that there is much gravel along the Rio Grande in places. Also that they have a local gray flint (probably chert), that most of the locally found Indian artifacts seem to have been made from. Also some chips are found in fields, which seems too to argue for the local 'flints' having been made into artifacts. Some small pieces of palm wood, mostly tan, but some white, have been found. In the local gravel pits, petrified bones and teeth have been found, identified as mastodon. 'Not too long ago a complete skeleton of a mastodon was found at Zapata, Texas, up the river from here, in a gravel excavation at a new dam site.

Our agates can be found in gravel strata that appear as outcroppings or as deep as thirty feet. We have found our best agates in old mining operations that have been washed by the rains and weathered over the years'.

"Two pieces of petrified wood were sent me. One is rather poor quality and not good color. The other is good quality and a rich medium brown color. These are not the palm wood mentioned above. These are two to three inch pieces.

"Four pale yellowish, very translucent, pebbles of chalcodony about 3/4 to one inch size were sent with the remark that this is found by the tons, all about this size.

"Two pieces of a very dark green jasper that have a greasy texture are reported as seldom found. They are about two inch size.

"Six pieces of quite translucent chalcodony with some brownish moss-like inclusions, are all rather small size, largest nearly two inches. One has so much of this moss, as to give it a lavender cast. These are the type usually referred to as floral and bouquet agates.

"Two more pieces are translucent chalcodony with considerable real banding in white and reddish, the ground color being yellowish. Therefore these are true agates. Up to 2 1/2 inches.

"Then there are seven red moss agates. Quite deep, bright red, and of course some variation, some showing quite clear spots or clear or bluish stripes. These up to about two inches.

"All the above material is quite solid, and shows very few pits, and what few there are, are quite minute, with very few exceptions. I give the above, as I can find nothing recorded in R&M, from Hidalgo County."—letter dated Dec. 20, 1954, from Byron C. Marshall, 204 Central Avenue, Hot Springs National Park, Arkansas.

UTAH—One of our subscribers sent in the following clipping taken from a recent New York City newspaper:

\$1,000 Rock Shown by Museum

A small chunk of rock at the American Museum of Natural History (in New York City) is worth about \$1,000 although it hardly looks it. Anyone approaching it with a Geiger counter, however, will soon find out why.

The specimen assays better than 80% uranium. Dr. Brian H. Mason, the museum's curator of physical geology and mineralogy, pointed out that the Atomic Energy Commission considered 1/10 of 1% uranium content worth-while ore.

The museum's exhibit is a chip off a treasure-laden block from the Delta Mine near Hanksville (Wayne Co.), Utah. It was donated by Vernon J. Pick, a uranium prospector who discovered the mine and has since had no financial worries.

The rock, which is orange and yellow with black spots, is about 24 inches in circumference and 19 inches long. It is on view in the Morgan Hall of Minerals and Gems on the fourth floor of the 77th St. building.

VERMONT — A dark reddish slab (one face polished) coming from the marble quarries at Swanton, Franklin Co., Vt., has been donated by the Pocono Mineral Shop, 21 Park St., East Stroudsburg, Penn. This type specimen is known as Oriental Marble.

VIRGINIA—Molybdenite, in quartz, has been found at Galax, Grayson Co., Va.

WASHINGTON—Cinnabar, the chief ore of mercury, occurs near Roslyn, Kittitas Co., Wash.

WEST VIRGINIA—"On a ridge 1 mile west of Keyser, Mineral Co., W. Va., can be found banded Calcite of a yellow color that fluoresces blue under the ultraviolet light"—letter dated Jan. 4, 1955, from Francis Schiller, Luke, Md.

WISCONSIN—Some nice agates are found in and around Pepin, Pepin Co., Wisc. A note on their occurrence has been sent in by John Krogstad, Pepin, Wisc.

"The agates I sent you were all found in the gravel beds along Lake Pepin or below the lake at Wabasha near the Mis-

Mississippi River. The Chicago, Milwaukee and St. Paul R.R. has a large gravel pit at Wabasha that has a large amount of Lake Superior agates. Their double track railroad between the twin cities and Chicago use a lot of this gravel for all their road beds near here. This is an ideal place to hunt them. The shores of Lake Pepin are very much gravel—during freezing weather the expanding ice (sometimes 2½ or 3 feet thick) will push up the beach and uncover new gravel every year. I have found the area near Pepin to be the most productive of any place I have worked. I am by no means the only one hunting for them these times."

WYOMING—Vitro Corporation of America, oldest continuing company active in atomic energy, has entered the field of uranium mining, according to an announcement of Nov. 9, 1954, by William B. Hall general manager of Vitro Uranium Company, division of the corporation which operates a uranium ore processing mill.

Vitro has acquired an interest in 57 uranium claims from the Sateco Mining Company in the Gas Hills area of Fremont County, Wyo., and has commenced exploration and drilling in preparation for mining of ore. Announcement was made last year that Vitro had started to explore suitable areas for the exploitation of uranium deposits.

CANADA—My good friend, Major Bernhard Day, Mining Engineer (and Belgian Consul, here in Toronto) has just presented me with a very fine crystal of Urano-Pyrochlor, about two inches across. This crystal comes from about ten miles from the Canadian mineral collecting area at Bancroft, Ontario; they range in size from ½" to 3", are chocolate colored, and except for the color could be easily mistaken for Garnets; the containing mineral is Calcite, this permits their removal from the host rock without undue damage.

"As work develops on this property, enough information may be released to give owners, or prospectors, of adjoining properties an idea of what to look for and where to look for it

"I am sending you another new mineral specimen—new for Canada, that is—a Crocidolite type of Asbestos (more commonly known as Blue Asbestos).

"This find is from the Labrador/New Quebec Area, about 100 miles from Knob Lake (south of the famous Chubb Crater) on a property owned by the Hollinger North Shore Exploration Co., at present being actively explored by the Johns-Manville Asbestos Co.—by arrangement with the Hollinger Company.

"One of our Walker Club members—and also a member of the Rocks & Minerals Asso.—spent over a year up in Labrador in 1939 prospecting for iron ore for the Hollinger Company. After hearing of this Blue Asbestos find I asked Roy (at present in Florida for a holiday) to write to his friends at Hollinger and to try to get some specimens. We were not successful last November as all the field men and geologists had left the area till next spring; however Mr. Chas D. Borrer, Production engineer in charge of the Fibre division of Johns-Manville, heard of my desire for specimens and was kind enough to hunt up two specimens and send them on to me. I have broken the larger specimen, keeping one-half for me and sending the other half to you; the other specimen I am sending to Roy for his collection.

"Please accept the specimen with the compliments of Mr. Borrer; I forgot to ask his permission if the specimen could be sent to you but I am sure that he will not mind.

"As soon as I hear of anything else that might be of interest to R&M, I will send it along."—letter dated Jan. 29, 1955, from John W. Edwards, 305 Avenue Road, Toronto 7, Ont., Canada.

A very nice specimen of this dark grayish-blue asbestos has been received.

FRANCE—Pocono Mineral Shop, 21 Park St., East Stroudsburg., have sent in a very nice marble slab (one face polished) which comes from the marble quarries at Brignoles, France. This specimen, known as Rose De Brignoles Marble, is a white marble streaked with bands of red, grey and some brown, running in all di-

rections. The marble fl. brown under long wave.

GREECE—"The enclosed specimens of calcite on pyrolusite and manganite come from the area of Drama (a city) in Macedonia, Greece. I obtained them from ore piles on the dock in the port of Cavallo (also spelled Kavalló) Macedonia, Greece. "—letter dated Feb. 18, 1955, from Walter Mc Namara, 7 Harmony St., Danbury, Conn. (letter written at sea, enroute to Newport News, Va.).

The specimens consisted of colorless dogtooth calcite xls in cavity of dark gray pyrolusite; group of white, platy calcite xls on pyrolusite; colorless calcite xls in cavity of pyrolusite—base of xls (xline calcite) fl. yellow under long wave; and a black mass of manganite with columnar masses of dark gray pyrolusite and encrusted by drusy colorless calcite xls.

ISRAEL—Aaron S. Citron, 29-59-167th St., Flushing 58, L. I., N. Y., visited Israel last summer where he collected a nice sand sample for us. In his letter, dated Feb. 3, 1955, he writes:

"You requested that I send further information on minerals in Israel. I, myself, collected gypsum in ribbons on flint; petrified (agatized) wood; in S'dom, on the Dead Sea, there is a cave in a solid salt mountain in which salt crystals were collected embedded in kaolinite pockets; and miscellaneous sands.

"In addition to these, I know of others which are found (but not by me). Copper and associated minerals are mined from King Solomon's mines, that were rediscovered by Archaeologists near Ezion Geber. Bromides are taken from the Dead Sea in huge quantities. Potash and nitrates are mined near S'dom as are kaolinite and glass sands. Gypsum and asphalt are mined, and prospectors are now drilling (or are preparing to drill) in areas which may or may not yield oil, but look promising. Near Siberias, in the north, are hot mineral springs which smell of sulphur and are used for bathing (I did not actually see xline sulphur in the area, and am judging only by the fumes).

Coal, unfortunately, does not exist at all, and iron only to very negligible quantities, so that both must be imported."

ITALY—From Chiampo, Italy, we have a nice marble slab (one face polished) that was sent in by the Poccono Mineral Shop, 21 Park St., East Stroudsburg, Penn. This a grayish marble, showing numerous marine fossils, and is known as Tavernelle Perlato Marble.

JAPAN—"During the months of October and November of last year I spent 29 days traveling throughout northern Honshu, Japan, in search of minerals and making a study of the rare-earth pegmatite deposits abundant in selected regions that I had heard about. I was accompanied by a famous Japanese mineralogist, Ohtokichi Nagashima-San and my faithful interpreter, Michiko Inamori-San. Together, the three of us visited the celebrated Ishikawa pegmatite district in Fukushima-Ken and the Ashio Copper Mine, located near the resort spot of Nikko, in Tochigi-ken. A total of 110 pounds of mineral specimens, about 300 in all, were personally collected or purchased in the field, or presented to us as remembrances of our tour by the local villagers. Ishiawa-gori yielded such specimens as aquamarine and emerald crystals, (one of the latter, weighting 650 gms and with double terminations, was purchased for 3,000 yen, or \$8.33 American!), columbite monazite, xenotime, samarskite, cyrtolite, fergusonite, all excellently crystallized as well as the rarer ones from their Japanese type localities: nogizawaite, to name only one of many. Large garnet crystals, some with a flattened, tabular habit were collected, and many more of the common minerals, such as feldspar, tourmaline and quartz crystals were acquired as well. One such smoky (var. moion) quartz crystal with highly lustrous faces weighed nearly 4 kg and was purchased for only 500 yen (\$1.39 American). Other specimens, often distorted, contained "walking" bubble-inclusions, "The Ashio Kozan presented a veritable paradise for the visiting collector. Only one other American has visited the mine previous to my tour, and he, like myself,

was taking advantage of the military service to increase his collection and his education. A collection was given, yes, given to me by an old, retired miner by the name of Kuniigi Tomaru-San, which represents nearly all of the suite of Ashio minerals, and which took 14 years to assemble. He said that he had never seen a young man as myself so avidly and enthusiastically interested in mineral collecting, and because he was becoming old, and losing his interest in the minerals he spent such a long time acquiring, he would rather that I had them. With much persuasion, I coaxed him to accept from me a camera, which my interpreter indicated was the one thing that he wanted in his old age. So for a 5,000 Yen camera, I have the finest collection that has ever been assembled from the Ashio mine, which has been conservatively estimated to be valued at 60,000 Yen, or approximately 165 dollars American. In addition to this remarkable gesture of friendship, the mine management allowed me to peruse their maps and cross sections, gave us a guide to assist our collecting operations, and presented us with an excellent suite of crystallized chalcopyrite specimens, the like of which I have never seen before in all my varied experiences. A few of the minerals acquired at this abundant locality include tabular-habit apatite xls, with even rarer stalactitic and cellular structures on several specimens; native bismuth, native copper, butterfly-calcite twins, and other varied forms; vivianite, cuprite, pyrite, gypsum, milky quartz, and fluorite (octahedrons) xls.; exceptionally fine pyrrhotite xls and rosettes; limonite pseud. after calcite, malachite, chalcotrichite, opal var. hyalite, galena, sphalerite var. wurtzite, chalcantinite, amethyst, and siderite crystals. The whole collection is valued at 80,000 Yen (about \$225). "—letter dated Jan. 17, 1955, from Paul F. Patchick, UNKRA, Taejon Mineral Laboratory, APO 94, % PM., San Francisco, Calif.

KOREA—"I spent the Christmas holidays in Korea vititing and collecting at the well known Sangdong Tungsten-Bismuth mine in Kangwon-do, the world's

largest known single deposit of scheelite and bismuth ores, and perhaps the largest tungsten mine in the world to date. About four hours were spent underground examining the geology of the tactite beds, observing the mining methods, photographing, and of course, prospecting with the Ultra Violet lamp. Good specimens of scheelite and powellite were collected in this manner. Collecting in the mine offices was equally rewarding, as samples of wolframite, molybdenite, and various scarn-type minerals were given to us by the chief geologist, Mr. Jung Chang Kwn. Christmas day was spent in the vicinity of Tanyang, Ch'un'ungch'ong-pukto, where the Wolak Tungsten-Molybdenum mine was visited, as well as the Tanyang Lithium rare-earth pegmatite. Zinnwaldite was the most interesting mineral collected that day, with some sugary barite samples collected from a small prospect in the vicinity. "—Letter dated Jan. 17, 1955, from Paul F. Patchick, UNKRA, Taejon Mineral Laboratory, A.P.O. 94, % P.M., San Francisco, Calif.

NORWAY—From the granite quarries at Laurvik, Narway, we have a sample that was sent us by the Pocono Mineral Shop, 21 Park St., East Stroudsburg, Penn. This is a very dark gray, almost black, slab, one face polished, showing flashes of beautiful blue opalescence. In the granite trade, this type is called Emerald Pearl Granite.

PERU—The first and only marble we ever saw from Peru, was sent us by the Pocono Mineral Shop, 21 Park St., East Stroudsburg, Penn. It is called Golden Travertine—it is a yellow, partly cellular, slab with one face polished and its locality is La Aroya, Peru.

SCOTLAND—A letter, dated Feb. 9, 1955, comes from Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland: It reads: "Have had poor luck in my 'hunts,' but last time down at Boylestone quarry (in Barrhead, Renfrewshire, Scotland), I did manage to get a little prehnite, and a few pieces of very poor natrolite. My coppe r on quartz turned out to be hematite, some of it xled,

but the pieces that had a very thin coating looked remarkably liked copper.

"Got a letter from a friend in Angola, Ind., (Ken Steele) in which he wrote about prehnite as a cutting material. I had been sending him small pieces from time to time and he sent me two lovely pendants, white tops from analcite and green bottoms from prehnite; you know how intermixed the prehnite gets in Boylestone.

"Ernest Stollery found some very nice moss agate near Cockburnspath, in East Lothian (Scotland), but in very small quantity. He got an arrowhead from that locality made from moss agate.

"Have just heard that Ernest Stollery has gotten a new job in the Highlands, Inverness to be exact, so he will be investigating the old localities there and maybe be finding news ones. I will keep you informed on all that he does in that part of Scotland. There is one shop in Inverness that does lapidary work, at least I think so, as I have seen polished halves of agates in the window for sale. Will get him to find out if they are using agates from Scotland and if so I think they must be from a new locality.

SOUTH AFRICA—A most interesting zoned nodule of manganite and psilomelane (both dark gray) has been received from Miss Adi Redman, B. Sc. Hons., Geological Museum, Public Library, Johannesburg, South Africa. The locality for the specimen is Tarlton, near Krugersdorp, Transvaal, South Africa.

Chicago Museum Sends Expedition To Central America

An expedition to study Central American volcanoes, and to collect specimens of volcanic products, will get under way with the departure on Saturday, April 2, of Dr. Sharat K. Roy, chief curator of geology at Chicago Natural History Museum for El Salvador. Dr. Roy has been engaged in these studies for several years past, and this year will conclude his work in El Salvador and extend his activities to volcanoes in Nicaragua. If time permits, he may branch out also into Guatemala and other parts of the Cen-

SOUTH GEORGIA—From the far off island of South Georgia (a British possession in the South Atlantic) we have a specimen that was sent us by Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland. The specimen is a thin slab, 2 x 3 and consists of deep red jasper associated with white xline calcite, dark green xline epidote, and massive milky quartz. The combination of red, white and green looks very nice and the slab should take a beautiful polish. The specimen was sent Mr. Ramsay by a friend in Grytviken, South Georgia, who wishes to remain anonymous. In his letter to Mr. Ramsay, dated April 13, 1954, the friend wrote:

"I expect you are wondering after all this time whether I had forgotten to send you anything at all—but I have been unable to reach the jasper locality until late in the season, in the company of the Sealers. The two pieces of jaspers which I am sending with this letter come from Diddy Cove, a small cove on the south west of the island. It occurs as infilling between layers of pillow in the Cretaceous pillow lavas. I'm afraid it is not very fine jasper by your standards, but it is the best I could find."

SPAIN—A very fine rose-red mass of cobaltocalcite, from Peramea, Lerida Province, Spain, has been received from Juan Montal, Plaza Sgdo. Corazone No. 1, Vilafranca del Panades, Spain.

tral American isthmus. In El Salvador, Dr. Roy on previous expeditions has climbed all the major volcanoes. He was the first explorer to mount to the summit of Izalco, the most active of Central American volcanoes, and he narrowly averted personal disaster at one its craters last year, escaping with minor burns on his feet. His research is expected to culminate in a more detailed report than has ever been heretofore available, to be published by the museum press.

MINERAL SHOPPER'S GUIDE

Conducted by **CHARLES A. THOMAS**

706 Church Street, Royersford, Pa.

Advertisers are invited to send notes or samples of their products. This service is free.

This department likes to get in on new things early in the beginnings. Sometimes good news comes to us too late to report to our readers when such reporting is old-hat. However, it is not too late to point out that the New Pocono Mineral Shop, whose first ad was printed in the November-December issue of *Rocks and Minerals Magazine*, is, by now, running quite low on the items listed. We received a nice letter from these fine people telling us that there are not too many slabs left of the now very famous Blue Pearl and Emerald Pearl polished granite pieces from Laurvik, Norway. Several four and five inch sections of this exquisite inch-thick polished granite in which quite large areas of fine peristerite show such lovely coloring and light dispersion, were shipped to us along with many inch thick polished slabs of granite and marble from many world localities . . . discussed more fully in the following paragraphs.

By some strange coincidence, about the time we received the shipment of slabs from the Pocono Mineral Shop, located in East Stroudsburg, Pa., we had rediscovered an old quarry not too far from our home town. On Route 23, going west from Elverson, Pa., and before reaching Morgantown on the same Route, one will notice the road taking a sharp and winding dip into a small valley. On the right will be noticed a ledge of limestone and a road running parallel to this wall. The wall of stone is actually the outer shell of an old quarry, the entrance to which is seen as soon as one turns the sharp bend in the road. In this quarry are very large pieces of red-rose and cream to buff colored marble of fine quality. The cream-buff colored material presents a denser and finer texture than the deep rose colors and typical marble patterns may be seen on fresh fractures. A large sphere of this material would be a real beauty. All of this

led us to thinking that beautiful marbles have been generally disregarded by the mineral and lapidary collectors. It was not long after, that we received the most attractive slabs from the Pocono Mineral Shop.

Italy is by far the heaviest producer of calcium carbonate marbles with Sicily and Spain very close competitors. South America and Canada also produce fine marbles and granite slabs for facing. It is too large a subject to cover in this department. Like Bob Hope in Greenland, we merely want to refresh your memory and point to things you just may be missing, mineralogically.

We cannot supply inch thick slabs to our reader friends so please do not write us. The new Pocono Mineral Shop, 21 Park Street, East Stroudsburg, Pa., is the best dealer we know who can supply superb sections of marbles and granite from world localities. These inch thick pieces in odd sizes are polished on one side. Here are a few items: La Plata Red Granite, Montevideo, Uruguay; Loreda Rosato, Verona, Italy buff and white with streaks; Loreda Chiaro Marble, Brescia, Italy (fluorescent). The first named granite as a peculiar deep red fluorescence. The next two are beautifully reacting under both long waves. Perlite D'Italia Marble from Palermo, Sicily, also has a fine fluorescent pattern. Long wave gives some reaction in webby streaks in Red Antique Marble from Chiavari, Italy. Beautiful Roman Travertine from Tivoli, Italy, has a weak fluorescence under ordinary U.V.; greater response under the strong EH 4 type long wave lamps. A light colored fossil bearing marble from Trieste, Yugoslavia Territory (Aurisina Marble) has a most interesting pattern, highly polished . . . some fluorescence.

One of the most beautiful polished slabs for interior decorative work is the pearl

granite from Laurvik, Norway, which is named, in some instances Emerald Pearl Granite. It is a dark mineral, highly polished and which shows small and large rectangular patches of iridescent peristerite almost rivaling Labradorite. A jet black highly polished slab, known as Canadian Black Granite, from Lake St. John, Canada, also shows pearly refractions of light but are not iridescent. Both types and many others may be obtained for very reasonable prices from the Pocono Mineral Shop . . . but hurry.

Mr. and Mrs. Charles Johnson, of Frankfort, Kentucky, use many leisure hours roaming the byways along the Kentucky River searching for Indian artifacts, most of which were made from the jaspers found in the area. Mr. Johnson sent us a large portion of Kentucky to look over. The Jaspers are all good solid pieces in many colors and show, in most instances that the hand of ancient man had handled them. A skinning knife of prehnite and other unidentified tools were among the lot. The most interesting semi-completed tools are a very pale, almost white chert with veinlets of chalcedony. Its flinty structure resembles some Brazilian agate. Also in the shipment were some very large masses of red jasper and quartz geodes showing quartz points. The quartz aggregates on the surface of the red jasper are a peculiar white as if burned in some heating process in connection with camp cookery.

A later report from Mr. Johnson states that at Blue Licks on the Licking River, excavators dug up a quantity of prehistoric animal bones near the salt springs. Also, at Drennen, near the sulphur spring Buffalo Wallows can still be seen and a field of about ten acres is full of bones of animals not identified. A vein of silver, lead and zinc is in this area and some heavy specimens have been collected by the Johnsons.

Jim Williams, Box 3354 Hillcrest Station, San Diego 3, California, sent us some very excellent samples of a gypsum find he made recently near a salt pond in his area. Novices will remember Jim Williams for his generosity. Jim write us that there just is no more material left for the no-

vices and that all other specimens are being reserved for sale. The gypsum find must have been quite a thrill. Shiny, glassy crystal aggregates formed around Gull feathers, twigs and tree limbs. Tiny clusters and masses up to 22 pounds were found. The latter specimen is now in the Cincinnati Museum of Natural History. Specimens for sale, run from one inch to nine inches. See his ad in the classified section.

We have a letter from the Slocum Gem Quarries, East Hampton, Connecticut, which states that gem mining will continue at this famous locality for golden beryl, aquamarine beryl, common beryl, uranium minerals and many other items expected to come to light. Operations, already started, are being done by the Riverside Mining Corporation, Garfield, N.J. Mr. Frank Bibik, President, says that small golden beryl and aquamarine beryl crystals in matrix of quartz and feldspar and complex uranium minerals may be obtained at the rate of ten pounds for \$5.00. We have seen new samples of this material, and many Slocum gems are in collections everywhere. If dealers and collectors are interested in obtaining fresh gem material from this famous old locality, write the Riverside Mining Corporation, 99 Willard St., Garfield, N. J. We sincerely hope for success in this new venture.

John F. Mitchell, of Golconda, Illinois, wrote for information on the practicability of the cheaper Alpha scintillation counters now on the market. It will work, John, and you will see the reaction of Alpha particles as they impinge on the small zinc sulphide screen. Like all cheaper tools, there are no frills nor fancy with the dollar instrument. The tool should be kept in a box in daylight and not at any time exposed to the slightest ray of light, bringing the counter from the box only in total darkness. The more expensive counters are equipped with a quencher in case the screen is accidentally subjected to light and a control cap with highgrade radioactive material in the cap will show positive reaction when the instrument is in perfect working condition.

Wish we could impress dealers with

the necessity of packing minerals and slabs with greater care. Recent shipments to us and to the buying collectors have been inadequately packaged. It is not enough to merely blame the Parcel Post handling of the U.S. Mail. Slabs should be packed wrapped in tissue and each slab placed snugly between corrugated cardboard, sandwiched and bound with adhesive tape, then packed into a strong cardboard box with plenty of paper. If it is worth selling it is worth the greatest of care. We feel that you appreciate the hint.

Buying collectors should remember that the best way to buy specimens is on the approval basis. Pricing minerals and slabs of minerals is a very difficult thing to do. Rarity alone does not constitute exceptional value. A slab cutter may believe, quite honestly, that he has top and rare material and ask prices far exceeding their real value and to be told later by some frank collector that superior material can be bought for half the price, which in some cases may be true or stretching it a point. 'Nuff said.

If you want to get the right and proper Uranium ore detector for casual or serious prospecting, look into the matter thoroughly. Prices range from around \$35.00 F. O. B. where ever from, to \$1295.00 or more plus shipping costs and insurance. We know of no better source of supply than the larger dealers who advertise in Rocks and Minerals Magazine. Minerals Unlimited, of 1724 University Ave., Berkeley 3, California sent us the most complete set of brochures on detection devices ever assembled in one envelope. If you are still prospecting for heavy metals, not radioactive, you can get a metallic ore detector also as well as Mineralights and laboratory sets for analysis of ores.

Mineralights have their use in uranium prospecting, tungsten, zirconium and a few other ores where the fluorescence of rock or ore will tell you that you are getting warm . . . and not from the desert sun. Uranophane and other nonfluorescent radioactive ores or coatings on rock may be quickly reduced to a fluorescent bead in a flame (blowpipe) and tested with the

Mineralight. A characteristic fluorescent yellow-green will show in the majority of tests on true radioactive materials but to be sure a further check by chemical tests should be made. Your dealer can supply books and booklets for the would-be prospector.

We know of a home-owner in the Philadelphia area who is not able to use a battery operated detector in his cellar due to the fact that floor is radioactive. So, uranium ores are where you find them. Finding a pay-lead, however, is the trick. Good advice, too, if you do use a Geiger Counter, is to pay little attention to the few clicks per minute. The device cannot be likened to a cricket . . . a cricket is still a cricket if he chirps but a few times per minute, but that ore is not considered worth raising an eyebrow to if it makes but a few clicks per minute. This is where samples of ore should be used as a control and good sets of radioactive ores are being offered by the better dealers. Do not put the detector to the whole box at one time, but select an individual piece and hold it near the detector.

Quality gem material buyers should always pay more than a little attention to the ads of A G. Parser, Inc. When they say they have pure color bloodstone, you can bet your Estwing Pick it is just that. Top quality bloodstone is never a giveaway item. However, one can get a number of ounces of .75 per ounce or a pound of the best for \$12.00. If you can use 100 pounds the price is then \$4.00 per pound.

Do not give up in your search for the perfect glue or cement. Modern chemistry will keep trying and have done wonders to date. No cement for the lapidary is fool-proof. Improperly cemented stones will not stay put and the very nature of some material will defy the perfect adhesion. If one wishes to try still another cement for those beautiful baroques and ear-ring back setting, Technicraft, whose ads appear in these pages offer a new cement. Honest advertising is the byword with this firm. They state that MOST of your troubles will be eliminated. If this isn't honest advertising, we will spread their cement on saltines and eat it. Try a bottle for a buck.

We have long been very much interested in fluorescence and phosphorescence. We have a few special pieces from Franklin, N. J., which glow for long periods and some extra long delay periods show up in some Friedensville, Pa., zinc ore. A fast spinning sphere will show, with the proper rig, a continuous phosphorescence. A short wave U.V. lamp, enclosed within a box or a large funnel which has a circular cone shaped aperture and which, in turn, is rimmed with black velvetine, and pressed against the spinning sphere (in the dark) should show this continuous phosphorescence. The rig is especially worthwhile in studying the very short but very brilliant phosphorescence of Franklin red fluorescent calcite. Low spinning speeds should be in order for the short phos studies. The theoretical speed for some short phos materials may run from 500 to 1750 R. P. M. or more and a much slower speed for the longer phos materials. If the operator does not have three arms, he may wish to clamp the device to a frame. A speed of less than 600 RPM should suffice for the average red fluorescent calcite. The sphere may be dopped to a metal rod or tube and chucked on a verticle spindle.

And, by the way, if you have been intrigued by the above phos-sphere gimmick but have no spheres and do not wish to make them, the Kane Lapidary and Supply, of 2813 N. 16th Street, Phoenix, Arizona, will make spheres from your material for a reasonable price per sphere.

Once in a while, this department gets a little out of hand and goes in for art, but only that type which uses minerals in the design. Just to prove something or other, this winter, we made some candelabra and other table pieces with copper, iron, brass and silver wire and set with cabochons where we could without overdoing it. We even used some large rounded slabs of Texas and other agates which had accumulated over the years. Boat-shaped baskets (in wire), small to medium sized water-plant holders and many other metal and stone conversation pieces, all using polished stone and cry-

tals, were made for Christmas presents along with the usual necklaces, bracelets, tie-clasps and other conventional jewelry pieces. Although the wrought-iron wire-work has been done to death recently, the overall effect with stones cemented or fastened in place is very attractive. A few such pieces, we might brag, are in the Franklin and Marshall Museum in Lancaster, Pa. Arty projects are simply limitless and if one does not know what to do but frame ALL of one's polished stones, there, above, is the hint.

We cannot help but mention something about the attractive offer in the November-December issue of Rock and Minerals Magazine. For about \$20.00 spent for good gem material with the International Gem Corporation (page 645) a 4 1/2" diamond trimshaw, worth \$6.50 was given free. Due to having to write this department weeks ahead, we could not tip you off to this offer, so watch carefully, all ads as they come. If they still have the trimmers, the offer may still hold.

Ralph E. Mueller and Son of 1000 E. Camelback, Phoenix, Arizona, still have some few superb freshly mined cabinet and smaller sized specimens from famous localities such as Chihuahua, Mexico, to name one. Page 652 of the Nov. - Dec. issue carries an ad which shows the normal run of prices for really superb material.

Long Life for the Editor!

Editor R&M:

While on the subject of R&M, I would like to say that I am continually surprised with every issue, as, it gets bigger and better all the time, the quality of the journal surpasses anything that is published anywhere. It is broad enough to give complete satisfaction to both the expert and the amateur mineralogist and collector. It is to be sincerely wished that your health and strength permit you to carry-on for a long time to come, for it will be a sad day for all your readers, when you have to "lay-down your pen" (you are not only welcome to publish this last paragraph, I hope that you will, because we all take the good things of life for granted and are quite shocked when they are taken).

March 1, 1955

John W. Edwards
305 Avenue Rd.
Toronto 7, Ont., Canada



FOSSIL DEPARTMENT

Conducted by Howard V. Hamilton
115-B East Adams Ave.
Vandergrift, Pennsylvania



We were sorry to learn that Mr. Graffham had to give up the Fossil Department. We appreciate the work he has done to make the department interesting and worthwhile. We sincerely wish that he and his wife find their new home pleasant, and we wish him success on his new job. We hope that we may hear from them frequently. We are looking forward to their notes on collecting in Ecuador.

We hope that we can continue to present an interesting and informative column. We need the help of our readers with articles and tips on collecting. Let us hear from you! We will try to answer or acknowledge any letters we may receive.

How to Free Fossils

Some time ago we read of an experiment that may prove to be a valuable tool for those who study fossils. Donald G. MacVicar, then a student at Amherst College, devised a method removing a certain type of fossil from the rock in which it was found . . . The method is limited to those fossils preserved as phosphate or having a phosphate coating (examples are brachiopods of the genus *Lingula* and shark teeth) and is limited to limestone. The limestone is heated slowly to about 1800°C and permitted to cool slowly. The phosphate is little affected by the heat while the limestone becomes soft and can be easily removed from the fossil.

If any of our readers try this experiment we would appreciate having a note on their results.

Movie About Fossils

The Shell Oil Company has made available a 16 mm sound picture entitled "The Fossil Story". It deals with the applica-

tions of fossils in industry. The film depicts the three basic fossil forms: actual bones, petrified remains of plant and animals life and impressions left in the rocks. The great range in size of fossils is shown—from diatoms to dinosaurs. The film is available upon written request to Shell Film Library, Room 4226, 50 West 50th Street, New York 20, N.Y., or 100 Bush Street, San Francisco, California.

A Flight of Fancy

The plated lizard, *Stegosaurus*, had two brains - one in the head, the other in the region of the hip bones, and enlargement of the spinal base. Contemplating this fact, Bert L. Taylor, a columnist on the staff of the Chicago Tribune, had a flight of fancy and wrote the following:

Behold the mighty dinosaur,
Famous in prehistoric lore,
Not only for his power and strength,
But for his intellectual length.
You will observe by these remains,
He had two sets of brains—
One in his head (the usual place),
The other at the spinal base.
Thus he could reason a priori,
As well as a posteriori.
No problem bothered him a bit,
He made both head and tail of it,
If something slipped his forward mind,
'Twas rescued by the one behind.
And if in error he was caught,
He had a saving afterthought.
Thus he could think without congestion,
Upon both sides of every question.
Oh, gaze upon the model beast,
Defunct ten million years at least.



THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC
PEEKSKILL, N. Y.

River Sand from Placer Co., Calif.

From the South Fork of Yuba River, where it is crossed by U.S. 40 in Placer County, Calif., we have a sand sample that was collected for us by Peter Mohlsick, 2830 Darwin St., Sacramento 21, Calif. This is a coarse dark grey sand consisting of smoky quartz, glassy gray feldspar, white feldspar, black biotite, black ilmenite, and a tiny amount of black magnetite.

River Sand from Moffat Co., Colo.

Stewart Pickford, Box 764, Steamboat Springs, Colo., sent in this sample. It is a medium grained gray sand consisting chiefly of quartz (colorless, smoky, brownish, reddish chalcedony) and feldspar (brownish, whitish) with some black biotite and black magnetite.

"Sand collected in Moffat County, Colo., at junction of Yampa and Green Rivers, in Dinosaur National Park, at a point which may be inundated, if proposed Echo Park Dam is built."—on label.

Gold Sand from Lemhi Co., Idaho

"Sending under separate cover some magnetite sand from the H.L. Haralson Salmon River Placers, Mineral Hill District, Lemhi Co., Idaho. Mr. Haralson is still sticking to gold placers, however, I am at this time investigating his black sand with the hope that we will find some commercial Minerals in it. You will note there is some zircon as well as other minerals."—Letter dated Dec. 27, 1954, from G. Elmo Shoup, Box 756, Salmon, Idaho.

This is a black medium grained sand consisting chiefly of black lustrous mag-

netite with minor amounts of quartz (colorless, smoky), silvery muscovite, green epidote, pinkish garnet, colorless zircon which fl. orange under the Mineralight, and some flakes of yellow gold.

Mica Sand from Lincoln Co., Maine

This lustrous sand comes from a beach on the Atlantic Ocean (on Pemaquid, Point Lincoln Co., Me.), and was collected July 22, 1954, by Mrs. Olive E. Looney, Lincolnville, Me. This is the first instance brought to our attention of mica sand being found on an ocean beach.

It is a lustrous blackish-gray medium grained sand consisting chiefly of lustrous dark brown mica (has a silvery reflection) with a smaller amount of colorless quartz.

Galena Sand from Loudville, Mass.

Last summer we received from Otto G. Bartels, 376 Amostown Rd., West Springfield, Mass., 6 sand samples which he had panned from the Manhan River in Loudville, Hampshire Co., Mass. Loudville is noted for its old lead mines which had been worked many years ago. The samples consisted of galena, garnet, cerussite, pyromorphite, wulfenite and zircon sands.

The galena sand is medium grained and reddish consisting chiefly of pink to dark red garnet with colorless quartz, orange wulfenite and lead-gray galena.

Garnet Sand from Loudville, Mass.

This is a dark red, coarse grained sand consisting chiefly of dark red garnet, with minor amounts of colorless quartz, grayish cerussite, green epidote, orange wulfenite, and greenish pyromorphite.

Cerussite Sand from Loudville, Mass.

A coarse grained dark red sand consisting chiefly of dark red garnet with some smoky quartz, orange wulfenite and grayish cerussite.

Pyromorphite Sand from Loudville, Mass.

A dark red medium grained sand consisting chiefly of dark red garnet with minor amounts of colorless cerussite, silvery muscovite, green pyromorphite, black magnetite, smoky and colorless quartz, and orange wulfenite.

Wulfenite Sand from Loudville, Mass.

This too is a dark red medium grained sand. It consists chiefly of dark red garnet with minor amounts of orange wulfenite, colorless cerussite, colorless, quartz, and green pyromorphite.

Zircon Sand from Loudville, Mass.

This is a fine grained dark gray sand consisting of pink to reddish garnet, colorless to smoky quartz, orange wulfenite and a few grains of pale brownish zircon which fl. orange under the Mineralight. It represents the finest screening from the panned concentrates.

River Sand from near Yerington, Nev.

"From Wilson Canyon on the Walker River, about 15 miles south of Yerington, (Lyon Co.), Nev. Nearby at Weed Heights is Kennecott Copper Co., latest open pit copper mine"—on label of sand sample that was sent in by P. O. Drury, P. O. Box 1028, Las Vegas, Nev.

The sample is a dark gray coarse sand consisting of quartz (colorless, smoky, gray chalcedony), bronzy biotite, feldspar (pinkish, gray), and black magnetite.

Garnet sand from Governors Island, N.H.

Lake Winnepesaukee is New Hampshire's largest lake consisting of 72 sq. miles of water and containing 274 habitable islands of which one is Governors Island in the western part (east of The Weirs).

"In the accompanying package you will find a sample of sand taken from the shore of Governors Island in Lake Winnepesaukee (near Laconia), New Hampshire. I collected it on Sept. 1, 1954. It had evidently been washed up by the hurricane of the preceding day."—letter

dated Sept. 6, 1954, from Steve Norton, 155 Winter St., Westwood, Mass.

The sample is a dark reddish fine grained sand. It consists chiefly of pinkish garnet with minor amounts of green epidote, black ilmenite, black magnetite and colorless quartz.

Beach Sand from Fort Slocum, N. Y.

"Sand comes from a beach at Fort Slocum (on Davids Island in Long Island Sound, New York City). This fort was used during the second world war as an Anti-aircraft gun and ammunition emplacement. It is now used as a training base."—letter dated Oct. 6, 1954, from Dana Stuart Cole, 5 Metro. Oval, New York 62, N.Y.

The sample from Fort Slocum is a medium grained gray sand. It consists chiefly of quartz (colorless, smoky) with minor amounts of black lustrous biotite, pink garnet, lustrous black hornblende, black magnetite, silvery muscovite and some sea shells (blue, white). The biotite, muscovite, and hornblende glisten brightly in the sunlight.

Petrified wood sand from Weatherford, Texas

"This sand sample just could not wait until I finished packing a small box of sand and mineral specimens I have for you.

"Millicent and I were over in Parker County (Texas) last Sunday working in the Trinity formation and found this log. It had weathered into a lot of pieces and I believe the center of the log must have been lined with these quartz crystals. We sat down and picked up all the small clusters and of course picked up all the wood with the crystals showing.

"On Monday I washed the sand off the wood and found the sand from this log filled with the micro crystals. We have found a lot of wood in the Trinity formation with the single crystals and some entirely replaced with the wood fibers, but nothing as beautiful as this.

"I will send you a piece of the log with the larger crystals on it in the box. I guess I will never get over being excited over finding beautiful mineral specimens.

"The locality for this wood is 10 miles northwest of Weatherford (Parker Co.),

Texas. This is on an unpaved farm road." —letter dated Jan. 8, 1955, from Mrs. Ruby Renfro, 2901 Bomar Ave. Fort Worth 3, Texas.

The sample is a coarse brownish sand consisting chiefly of brownish petrified wood (rough pieces, no rounding) and quartz (colorless, milky, smoky,—rounded grains and many tiny colorless rock crystals showing good faces)

"Sand washed from a large log of petrified wood. Notice the wood fibers in some of the crystals. Found 10 miles northwest of Weatherford, Parker Co., Texas." —on label.

Monazite sand from Sheridan, Wyo.

"If you have had the opportunity to read the new book 'Minerals for Atomic Energy' by Robert D. Nininger, you will note on page 100 an item about a new type monazite deposit found near Sheridan (Sheridan Co.) ,Wyo.

"I found this deposit in 1949 and the sand I sent you some time ago was from there. I am enclosing a small sample of sand from another area in the deposit for you.

"This monazite is unusually high in thorium, probably highest found in U.S." —letter dated Dec. 6, 1954, from K.S. Moore, Pres. Minerals Development Co., Inc., 1040 S. Thurmond, Sheridan, Wyo.

The sample is a fine grained dark brown sand consisting of dark brown monazite, quartz (smoky, colorless, brownish), and black magnetite.

Glacial sand from Yellowknife, Canada

"Today I am mailing you a sample of glacial sand from our nine hole golf course here in Yellowknife. This location is a large deposit of glacial sand just room for a nine hole course surrounded by granitic rocks, with a few humps in the course." —letter received some few weeks ago from H.W. Wagenitz, Yellowknife, N.W.T., Canada.

This is a coarse grained brownish-gray sand. It consists chiefly of quartz (colorless smoky, brownish) and feldspar (pinkish, flesh color, gray) with minor amounts of black biotite, silvery muscovite and a very small amount of dull black magnetite.

"This is a gold mining town with a

about 3,000 people. Mining started in 1938, then was delayed during the war. And right now we have an up to date town, which is located 700 air miles north of Edmonton (capital of Alberta) situated on the mouth of the Yellowknife River which empties into Great Slave Lake." —letter dated Aug. 8, 1954, from Mr. Wagenitz.

Beach sand from Playas, Ecuador

"Enclosed you will find a sample of recent beach sand from Playas, Ecuador (on the Pacific Ocean). This is wave sorted and rather unusual in that concentrations are piled up under the sea cliffs. In places the deposit is 4 or 5 feet thick. I have heard reports that this is gathered and sacked for export but have not verified this. The common mineral is ilmenite, I suppose, but am interested in what you decide the other minerals present are.

"My work here is very interesting and so far progressing very well. I have been into the jungle areas on two trips and into the desert country bordering Peru on one trip.

"I will move to Quito which has an elevation of nearly 10,000 feet in about 2 weeks. Should get to do some mineral collecting up there." —letter dated Jan. 10, 1955, from our former Fossil Department Editor A. Allen Graffham, Apartado 354, Guayaquil, Ecuador.

This is a fine grained black sand consisting chiefly of black lustrous ilmenite and magnetite (in equal proportions) with very small minor amounts of green epidote and colorless quartz.

We are very sure that if Mr. Graffham finds any fossils in Ecuador, he will send us a report on them for printing.

Three sand from Israeli

"I am sending under separate cover some sand samples collected by me in the Israeli desert this summer. The samples were taken at a silica and kaolin quarry some miles west of S'dom on the way to Beersheba. The locality yields over a dozen shades of sand, which local workmen often arrange in bottles, in decorative patterns. The Israeli desert, or Neger, as it is called, is rich in minerals for collectors (if not for engineers) and provides good

pickins. " —card dated Dec. 14, 1954, from Araron S. Citron, 29-59—167th. St., Flushing 58, L.I., N.Y.

The samples consisted of 2 quartz and a limonite sands. One of the quartz sands was medium grained, light pink color, consisting chiefly of colorless quartz (some light pink) with rounded gray calcareous masses. The other quartz sand was medium grained, red color, entirely of quartz (chiefly red, some colorless).

The limonite sand was medium grained, yellow color, consisting of yellow earthy limonite and colorless quartz.

Beach sand from Bay of Skail, Orkneys

Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland, has sent in a sand sample which comes from the Bay of Skail, Mainland, Orkney islands, Scotland. This is a dark gray fine grained sand consisting chiefly of sea shells (white, blue, brown) with tiny amounts of black magnetite and colorless quartz.

"It was near this bay that the ship carrying Lord Kitchener to Russia in World War I was sunk," —on label.

River sand from Eshowe, Natal.

This is a brownish medium grained sand consisting chiefly of quartz (brownish, colorless, smoky, rose, gray chalcodony) with minor amounts of silvery muscovite and black magnetite. One of the 19 sand samples sent in by F.C.M. Bawden P.O. Box 1167, and Mrs. I.N. Gush, P.O. Box 1128, both of Johannesburg, South Africa.

" Sand from White Umfolosi River, Melmoth Road, north of Eshowe, Natal (Zululand), South Africa " —on label

Basalt sand from South Georgia Island

Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland, has sent in a sand sample which comes from far off South Georgia Island in the South Atlantic. South Georgia, a British possession, has a rockbound and precipitous coast with whaling its only industry. The island has an area of about 1,000 sq. miles and lies southeast of the Falkland Islands,

of which it is a political dependency.

The sample is a dark gray medium grained sand consisting chiefly of dark gray basalt and quartz (smoky, dark smoky, brown) with a very small amount of black magnetite.

" The sand comes from Grytviken, the administrative headquarters of the island, and the locality of one of the three whaling stations." —on the label.

Quartz sand from Barcelona, Spain

This is a dark gray coarse sand consisting chiefly of quartz (smoky, white) with some pinkish feldspar, whitish muscovite, gray clay, and a tiny amount of black magnetite. It was donated by Glen E. Kiser, Douglass, Kans.

"From highway in Barcelona (Barcelona Province), Spain" —on label.

River sand from Dusseldorf, Germany

In the last issue (Jan-Feb) mention was made on page 48 that Ben J. Sterling, Jr., Burgess of Moosic, Penn., has written to Lion Club Presidents all over the world, petitioning them to send a pound of sand from their localities. He wrote also to servicemen. It is a pleasure to report on the following two sand samples that have reached us, due to Mr. Sterling's delightful interest in this department.

One sample comes from Dusseldorf, Prussia, Germany. It is a coarse dark gray sand consisting chiefly of quartz (colorless, smoky, reddish, gray chalcodony) with some black magnetite (some are lustrous black globules) and a little brown limonite.

" Sand from the River Rhine, at Dusseldorf, Germany. Sent by Governor III of Lions International of Dusseldorf, Germany, at request of Ben J. Sterling, Jr., Burgess of Moosic 7, Pa. " —on label.

" Dear Lion Sterling.

"It is a bit difficult to send you a pound of sand from here. The customs are too severe. But now I hope that a friend of mine will take it over with him, and send the parcel to you. The sand is taken exactly from the borders of the Rhine, flowing across

Dusseldorf.

" With cordial greetings.

Sincerely yours,
Governor 111. "

—letter accompanying the sand.

Beach sand from Melidia, Morocco

The 2nd sand sample obtained for us by Mr. Sterling comes from Morocco. It is a dark brown fine grained sand consisting chiefly of quartz (colorless, brownish, reddish, smoky) with minor amounts of black magnetite and sea shells (white, red, brown,). Some of the shells fl.greenish under long wave.

" Sand from Melidia, Morocco, North Africa (near Casablanca). See enclosed map (sent with the sand and it shows Melidia on the Atlantic Ocean). Sent by Lt. James Young of Moosic, Penn., at request of Ben Sterling, Jr., Burgess of Moosic, Penn. " —on label.

Warning to Rockhounds!

Editor R & M:

May I use your Columns to pass a warning on to the "Fraternal Order of Rockhounds"?

It has been brought to my attention several times within the past year of some colorful "red obsidian," being offered by dealers in various parts of the country. Some is said to come from Canada somewhere along the Alkan Hiway. The latest is reported as coming from North Dakota. Much of this material is being offered at exorbitant prices, which to my personal knowledge is around five dollars a pound.

One of my rockhound friends is furnishing some of this material to dealers—but *not* as "red obsidian." He picks it up off the waste dumps of the "Corning Glass Works," at Corning, New York. He trades it to dealers as *Colorful glass slag—not obsidian.*

Another friend reports it as being offered in some localities as "red obsidian," from North Dakota. He said he could get tons of it on the waste dumps of various glass factories in the Great Lakes region.

It would seem that gullible and trusting rockhounds are being "fleeced," by unscrupulous dealers. However there are, no doubt, some honest dealers who have themselves been hoodwinked by unscrupulous wholesalers. Truly, as my Arizona friend said, "the human is a low grade of Crumb."

I don't say there isn't *red* obsidian, but as yet I haven't see any.

This colorful material does make very colorful spheres, cabs, book ends etc., but as slag it isn't worth the price generally asked.

So if you are buying "red obsidian," be sure you know your dealer—and your obsidian.

Hollis J. Gordon
411 E. Kansas St.
Independence, Mo.

A vote of thanks for R & M!

Editor R & M:

Congratulations! On the splendid January-February issue of 'Our' official and favorite Rocks and Minerals Publication.

You have a vote of thanks coming for using such good quality paper also. It is so much easier to take the right care of a book or magazine when the paper thereof has more than two dimensions, and as well, the quality feel.

Take Doctor Benn's scholarly article for instance, so worth while just for the text. But those Plates could not have been so well reproduced on flimsy paper.

And what a thrill came at the recognition of Mrs. Howie's artistry adorning the caption of THE SAND COLLECTOR! But why does she append such an over-modest and well hidden signature?

"Let your light so shine," I would say to one who can create such lively and lovable Child portrayals.

It's in rather poor taste to keep singling out things to praise from your so readable issue.

However, I am constrained to say that the straight from the shoulder, and as well "fire-side chatty" information (repeat INFORMATION) in the MINERAL SHOPPER'S GUIDE is so helpful.

Frank H. Waskey
P.O. Box 163
Olney, Maryland

Feb. 25, 1955

ATTENTION SUBSCRIBERS

ROCKS AND MINERALS comes out once every two months as follows:

Jan. - Feb.	out about	Feb. 20
March - April	out about	April 20
May - June	out about	June 20
July - August	out about	Aug. 20
Sept. - Oct.	out about	Oct. 20
Nov. - Dec.	out about	Dec. 20

TRADING

By Col. C. M. Jenni, U.S.A. Ret.
3129 Chadwick Dr
Los Angeles 32, Calif.

Traditionally early American, trading seems to be a neglected art among collectors today. Even among society members, it is hard to find a single individual per society who is interested enough, or willing to take the trouble, to negotiate and complete a trade.

It has been my experience in 3 years of intensive trading that a better collection can be assembled, at costs the average collector can afford, than by collecting. This is not to disparage collecting, for of necessity you can't trade, unless you collect material to trade. But you can transmute the material you collect locally into fine specimens from the other localities. Most of us can not find the time, or opportunity to visit more than a few localities, more than 150 miles away each year. By the contacts we establish by trading we can visit hundred of localities, including those in foreign countries, every year. Not only learning a great deal about the areas from the material obtained, but by the correspondence with the collector, who having access to the areas at all times, learns more about the area, and the collecting site than any one else, including the geologists and the minerologists who have originally described it.

It has been my experience that no matter how productive a site is, it takes some time, and several visits, to begin to recover fine material. However the local collector, if he is an intensive and thorough collector, nearly always has a surplus of fine material.

It might be said that, collecting for trading would soon deplete an area. This has not been my experience for most sites collected thoroughly and continually continue to produce fine material, and even if a single species is depleted, more material, and other species will take their place.

For instance Crestmore Quarry in California has been collected intensively for 30 years, but 1953, the last year it was open, produced more and finer material

than in any previous year. Pala is another of the same type. While the fine tourmalines once produced there are few and far between, the other minerals, including the many rare phosphates can still be found in quantity. In addition many sites are lost to the collector, and thus to the science of mineralogy by closing, by flooding, or land slips, or sometimes by becoming, sad to say, public dumps. The only material then available is that in the hands of local collectors.

Even the dealer profits by trading. He secures material by this method, but more important, he profits by the increased interest of collectors; by new additions to his customers, and by the progressive increase in interest and the desire for finer specimens by the increasing knowledge of the collector, thus leading to more sales.

And, of not less importance, the correspondence with finest type of people in the world, the exchange of knowledge, and ideas, add immensurably to the joy of collecting. We all hope that in the future we will meet our correspondents, and visit in their choice collecting sites, but in the meantime we can enjoy collecting from the sites, in absentia.

Trading, to be successful must be ethical. Preliminary correspondence should clear up all doubts about the size, quality, and type of specimens offered and desired. These requirements should be rigidly adhered to, and liberality pays big dividends in good will, for future trades, and in establishing new contacts. In 3 years, my collection has more than doubled by this method, material being traded in such diverse areas as Iceland, Denmark, Sweden, Madagascar, Japan, China, Germany and Austria. If you have good material in rare species, scientific institutions every where are interested, and generally liberal in their returns.

So—let's all trade—for better collections for wider acquaintances—for increased knowledge—and for more fun.

The Company Which Seeks, Finds, and Gives It All Away

By R. E. Riecker

9709 S. Prospect, Chicago 43, Ill.

A friend of mine returned recently from an extensive field trip to the West with only very modest returns of gem materials and mineral specimens along with substantial quantities of disappointment and frustration. He charged, "I'll never go on one of those wild goose chases for rocks again. Why I paid more for gas and lodging looking for those rocks than I would have if I had tried to buy the Chicago Natural History Museum."

This man, whom I will not embarrass by naming, prepared himself for a 4-week trip through Colorado, Wyoming, Idaho, and Washington. He returned as many collectors do with less than he might find in his own back yard. He claimed he was so busy hunting for those elusive rocks that he missed most of the scenery. His prospective locations were quoted, he said, from old geology books and commercial gem finders. He had many spots relayed to him by friends, some of whom hadn't been near those spots for a decade. Some spots which had great promise were impassibly impossible to reach.

If I had thought that he was frustrated then, I was only receiving the preview of things to follow when he realized that he was paying for a service today which would have guaranteed him a prosperous and an enriching field trip had he only consulted it for help before he left. His government taxes were supporting the U. S. Geological Survey which would answer his prayers for an excellent trip.

He explained that he had never heard of the Survey and that it sounded much too advanced to help him. He calmed somewhat after he discovered that the Survey was established to help him and people like him with equal problems. The Geological Survey has geologically and topographically mapped just about every piece of land in the United States. These maps are easy to read and to understand. The Survey spends almost all of its 50 million dollar annual budget seeking

treasures above and below the earth or describing some formation for pure science alone. After seeking, the Survey publishes reports of all the information collected in the field. These reports are then made available to the public. The Survey does no mining and makes no claims to their finds. The exploitation is then up to private enterprise or you and me.

There are geologic maps for every state in the union, and larger maps covering much smaller areas. A huge 51 by 90 inch. geologic map of the whole U.S. printed in 23 colors showing 160 rocks units is very efficient for detailed study. Contour maps also printed by the Survey cover almost all the U.S. The USGS has available thousands of maps, bulletins, reports, water-supply papers, circulars, monographs, mineral-sources reports, charts and surveys on just about every phase of geology, mineralogy, and paleontology known to man, describing just about every piece of the land in the U. S. man has walked on or over.

Here is a service of the American government which will send maps and charts to hobbyist or professional person showing exactly where to find minerals, gems, or other deposits. Using other maps the actual terrain may be actually "seen". The chances are that wherever you are sitting reading this article, the Geological Survey has printed a map showing each layer of strata below you to base rock, and has fully described that area for mineral, gem, and rock wealth, besides the map which shows by color contours the lay of the land where you sit.

Most states have a state survey or department which has worked closely with the national Survey to publish maps and additional information on the state. Then by writing to the Director, Geological Survey, Washington 25, D. C., you may receive a huge catalog of the publications of the national Survey. This publications catalog is revised every 5 years from

1948. In the intervening period yearly supplements are printed. If you like you may receive monthly supplements of new publications. All are free. There are a few modest charges made for maps and charts but all naturally are non-profit. There is no charge for postage.

Already our friend has taken another trip to the West through the same states as before. This time he was fully equipped with maps, charts, and reports of the Survey. He went to the mines and locations he chose from the Survey's publications and found exactly what was listed

for those regions. When I returned from this second trip I was fully satisfied with my finds and hopeful for a quick return, for you see the man I was originally protecting from embarrassment is actually myself.

I am convinced that no service can insure as fine and profitable a field trip as the U. S. Geological Survey. Take advantage of their records, for after all your taxes keep them in business and believe me their reports, maps and charts will put you in business on your next trip.



A SAD SITUATION

My husband complains about the bed.
He says it's lumpy for his head.
He says the middle seems like stones
Were poking in his poor tired bones.
He'll probably divorce me soon, I figure,
If my rock collection gets any bigger!

Virginia Howie

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings. Check names for correct spelling.

East

New York Mineralogical Club, Inc.

Minutes of the Regular meeting of
January 19, 1955

Dr. Stenbuck presided, called for order at 8 P.M. Approximately 70 members attended the meeting which was held in Schermerhorn Hall, Columbia University, New York City.

The Secretary read the minutes of the previous meeting which were accepted as read.

Communications received from the Eastern Federation were read. These requested program aid such as package programs, slides and films and also requested data and maps on collecting areas.

Dr. Stenbuck reported on action taken at a special Board of Directors meeting held at his home on January 16, 1955, on the matter of the Kunz Fund, and announced that a prize of \$100 to be known as the George Frederick Kunz Prize, named after the founder and first president of the club, will be awarded at the annual meeting of the N. Y. Mineralogical Club in May 1956, for the most acceptable paper dealing with the study of a mineral locality or the minerals from a deposit located within a fifty (50) mile radius of New York City.

Dr. Ralph J. Holmes was appointed to draw up the conditions of the contest and a copy of same was given to the president, which copy is herewith attached and made a part of these minutes.

Dr. Stenbuck also stated that publicity would be given to this contest in publications, and in bulletins to Universities.

Mr. Soland brought in a generous supply of stilbite specimens from Scotch Plains, N. J. for free distribution to the members. Mr. Ted Frankowski did likewise with pyrite nodules from Sayerville, N. J. and garnet xls from Roxbury, Conn.

The new screen presented by the club to the university was installed and the Secretary read a letter of appreciation from the Dept. of Geology for our gift.

Recess was declared at 8:25 and the program was started at 8:30.

Mr. M. S. Badollet, Chief of Research Section of Asbestos Fibres for Johns-Manville Corp., spoke on the subject of "Asbestos, an Industrial Mineral of Uparalleled Properties." He distributed charts, data and papers dealing with geology, occurrences, types, properties, etc. The

data gave a complete reference file on this interesting mineral.

Specimens of the various asbestos minerals and associations were on display. Slides were shown and much was learned from Mr. Badollet's excellent talk as was indicated by a well participated question and answer period.

A vote of thanks was given to the speaker.

Adjournment came at 9:50 P.M.

Victor Pribil, Secy.

47-18 37th St.

Long Island City, N. Y.

New York Mineralogical Club, Inc. announces

The George Frederick Kunz Prize for 1956

A prize of \$100 to be known as the George Frederick Kunz Prize (named after the founder and first president of the club) will be awarded at the annual meeting of the New York Mineralogical Club in May 1956 for the most acceptable paper dealing with the study of a mineral locality or the minerals from a deposit located within a fifty (50) mile radius of New York City.

Conditions Governing the Prize ELIGIBILITY

This prize is open to members in good standing of the New York Mineralogical Club. However, non-members desiring to compete may become eligible by joining the club before the closing date.

DATE

Papers must be submitted on or prior to February 15, 1956 to the New York Mineralogical Club, care of Dr. Ralph J. Holmes, Department of Geology, Columbia University, New York 27, New York.

PAPERS

All paper submitted must be the result of original research not already published. Manuscripts must be in English, typewritten, and all necessary diagrams, photographs, maps, and tables must be ready for publication. Each paper must be accompanied by an abstract, not over 250 words in length, summarizing the data presented and the conclusion reached.

AWARD

The award will be made by a committee of three recognized mineralogists selected by the Board of Trustees of the New York Mineralogical Club. Their decision shall be final. If no paper is considered worthy, no award will be made.

PUBLICATION

The New York Mineralogical Club shall have first option on the publication of all papers submitted unless other arrangements have been made with the individual author at the time

of submission of the paper. However, such publication is not binding on the club. Wherever published, the paper must be accompanied by the following statement, "Awarded the George Fredericck Kunz Prize by the New York Mineralogical Club, 1956." Such a statement must also accompany any publicity originating with the author regarding the paper. If published elsewhere with the consent of the club, ten copies of the paper must be submitted immediately after publication to the secretary of the New York Mineralogical Club.

New York Mineralogical Club, Inc.

Mineral & Lapidary Society of Pittsburgh, Pa.

The Mineral and Lapidary Society of Pittsburgh, Pa., meets 7:30 p.m. the third Friday of each month in the Conference Room of Mellon Institute, 4000 5th Avenue, (use entrance on N. Bellefield Avenue). Principal business of the January meeting was election of officers for 1955.

Guest speaker of the evening was Dr. T.V. Buckwalter, Mineralogy Department, University of Pittsburgh. The subject of his interesting and informative talk was "Uranium Exploration in Pennsylvania, New Jersey and New York."

Stamford Museum Mineralogical Society

The Stamford Museum Mineralogical Society is rapidly growing this year, thanks in part to *Rocks and Minerals*. As an example, one of our new members, Mr. R. W. Flagg of Westport, Conn., heard about us from his father who is an R & M subscriber in Arizona.

The January meeting was very successful. The main portion of the meeting was a showing of the excellent film, "The Story of Copper" produced by Phelps Dodge Corp. in cooperation with the Bureau of Mines.

Mr. Alan Kattelle, our president, had obtained the film and he, knowing something about the processes shown gave a running commentary on them. This greatly enhanced our enjoyment of it.

After the picture we all repaired to the main hall of the Museum to view a special exhibit of copper minerals and products previously prepared by some of the members. This exhibit was cultural as well as mineralogical—this being in keeping with our policy of showing the public the important relationship between minerals and our civilization. Indian artifacts and present day products of our own culture were displayed as well as several minerals and copper ores.

Our February meeting was held as usual the second Tuesday of this month in the lecture hall at the Museum. We had several new members attend this meeting, all of them very enthusiastic.

The first item on the adjenda was a report of the committee investigating the possibility of using the Museum's lapidary equipment. They conferred with Museum officials and it

was agreed upon that we could have the use of the equipment any time we liked within reason. The only hitch being a lack of space in which to set up and use it—however that will be remedied when the Museum moves to its new home in North Stamford later this year.

Next we commenced study of Native elements and sulfides. We have a course in elemental mineralogy under way and at certain meetings we proceed with our studies—we have covered physical, chemical, and electric properties of minerals so far and are now commencing study of the different groups of minerals. This like all of our other activities is open to anyone living within the region and having an interest in Earth Science and the artistic and cultural uses of minerals.

A special meeting was held on February 16th at the home of Mr. and Mrs. Leighton, who graciously invited the entire membership to inspect their lapidary equipment. Mr. Leighton ably demonstrated the use of this equipment on a number of specimens, and Mrs. Leighton exhibited her beautiful handiwork in shell jewelry. Refreshments were served and all had a most instructive and enjoyable time.

J. A. Preston III
100 Strawberry Hill Ave.
Stamford, Conn.

New Haven Mineral Club

Dr. A. N. Winchell addressed the New Haven Mineral Club at their meeting held Jan. 10th. at the Peabody Museum in New Haven, Conn. His subject was "Identification of Minerals by Optical Means." After defining the term "Index of Refraction" and describing the mineralogist's microscope, Dr. Winchell demonstrated the use of polarized light and the set of standard refraction index fluids. The first demonstration covered those minerals with a single refractive index. Minerals having double and triple refractive indexes were discussed and methods of determining their various indexes were demonstrated using both upper and lower Nicol prisms in the microscope and the standard fluids.

The subject of Birefringence was explained by Dr. Winchell whereby color bands shown in the polarizing microscope with crossed Nicols when examining thin sections of minerals can be utilized to aid in the identification of minerals and supplement the refractive index determinations.

Carl L. Hartshorn
306 Union Ave.
West Haven, Conn.

Keene Mineral Club

At the January meeting of the Keene Mineral Club, Dwight H. Carle of the Keene Teacher College talked on atoms and demonstrated a Geiger Counter. The members brought different types of uranium minerals to try out on the Geiger counter.

The February meeting was our annual supper meeting. A turkey dinner with all the fixings was put on by three ladies of the club, Mrs. Pratt, Mrs. Lougee and Mrs. Whitehead. After the dinner the members and friends were entertained by the second series of views of Spain, along with a history of the places shown. Mr. Henry G. Neugebauer gave a very interesting talk along with his slides. Over a year ago he showed us his wonderful slides on the Inca ruins in Peru.

The March meeting Mr. Wetherbee, our president, will give a talk on crystals. Also there will be a silent auction of minerals that were given to our club by the Northfield School.

There will be further auctions at later meetings.

Our club meets the first Saturday of each month.

Mrs. Julian Wetherbee
22 Wheelock St.
Keene, N. H.

North Jersey Mineralogical Society

The world-famous mineral localities of Franklin, New Jersey, and Langban, Sweden, were compared and contrasted by Dr. Brian Mason, Curator of Mineralogy in the New York Museum of Natural History, who was guest speaker at the February meeting of the North Jersey Mineralogical Society. The meeting was held in Paterson Museum with an attendance of some seventy members and guests.

Dr. Mason, a native of New Zealand where he took his degree in geology, was working in Norway in 1940 when the Germans took the country. He escaped into Sweden and spent three years there studying and working in mineralogy.

He said the Langban mine is a small iron-manganese deposit, and is now closed. It was worked for iron as early as 1350, when there was no mining machinery. The miners built fires and heated the rock, then threw cold water on it, and so cracked and split out the ore. They had no hoists, but carried the ore to the surface by climbing ladders. The country is pock-marked with small mine holes, Dr. Mason said, many of which contain permanent stalactites of ice, showing remarkably beautiful ice crystals, but he never collected any.

The early miners did not recognize the manganese, which is black like iron, and had trouble with their smelters. This seems reminiscent of Franklin where the early miners thought the black franklinite was an iron ore instead of a zinc ore, and sent shiploads of it to Europe where the iron smelters could not get good iron from it.

The Langban mine was worked for manganese from about 1870 to 1930 when the smelters were shut down after 400 years of operation, from their erection in 1515.

The chief difference between the Langban mine and the Franklin mine is the absence of

zinc in the Swedish deposit. It is the presence of manganese and lead, and some extraordinary conditions under which the deposits were formed which makes these two locations so remarkable in the rare minerals they contain. As Franklin has some thirty minerals found nowhere else, so also has Langban. In addition, the two deposits have roughly about thirty minerals in common, which are found only in these two places on earth.

Dr. Mason also described several other sites in Sweden where he had collected minerals. One of these was Ytterby, near Stockholm, remarkable for its variety of the rare earths; elements, many of which were first found and described from this location. They occur in a granite pegmatite which was quarried for 200 years for the quartz and feldspar used in making porcelain. The rare earths occur with black biotite mica, he said, and are easily found on the extensive dumps.

Another, different pegmatite at Varutrask in northern Sweden, was first opened in 1933 and is a productive source of the lithium minerals, lepidolite, spodumene, amblygonite and petalite. This also contains numerous rare minerals, including a little uraninite by which it has been determined that the deposit is 1740 million years old. "You never know what you may find in a pegmatite", said Dr. Mason.

He described the great Kuruna iron mine still farther north, about 200 miles above the Arctic Circle. He said this was originally a mountain of almost pure magnetite. It is an open pit mine three miles long and 800 feet deep. It is no good for specimens for mineral collectors, but it produces 30,000 tons a day of iron ore which goes out at the rate of one train load per hour, over a mountain railroad to the port of Narvik, Norway. The Swedes do not use this iron themselves but export it to England and Germany. He said they have many small iron mines in middle Sweden from which they produce the famous quality Swedish steel.

Marian Brown Casperson
Publicity Chairman
9-11 Hamilton St.
Paterson 1, N. J.

Newark Mineralogical Society

"The Newark Mineralogical Society held its first meeting of the year on January 9th with Mr. Louis Eaton Shaw, our newly elected president, presiding. About 80 members were present at this meeting.

Professor B. L. Smith of the Geological Department of Rutgers University, New Brunswick, N. J., was the guest speaker. His talk was on the lithium, copper and uranium minerals of the Rocky Mountain States. Professor Smith and his family had taken a vacation camping trip through the states of Colorado, Wyoming, Utah, Idaho, Montana, North Dakota and South Dakota. They visited many of the famous mines, operative as well as those no

longer in operation, and brought back numerous mineral specimens from the localities visited.

Professor Smith illustrated his talk with kodachrome slides of the many points of interest on his trip, and particularly pictures of the curious and wonderful geological formations of the region. Many questions were asked, the specimens viewed with interest, and the meeting ended all too quickly.

The Newark Mineralogical Society meets on the first Sunday of each month, a social hour at 2:30 p.m. and the meeting at 3:00 p.m. A hearty invitation is extended to all to attend the meetings. Meetings are held in the Newark Museum, at 43 Washington Street, Newark N. J.

Louise W. Borgstrom,
Publicity Chm.
Elcock Avenue
Boonton, N. J.

Gem Cutters Guild of Baltimore, Inc.

On Saturday, February 26, 1955, more than 600 interested Baltimoreans warmly welcomed the first 'live' exhibit of the work of members of the Gem Cutters Guild of Baltimore that it has had in its almost five years of existence. The show, featuring the work of about thirty members in the various phases of gem cutting and the mounting of stones, was held at the Guild's regular meeting place - the auditorium of the Roosevelt Park Recreation Center at 36th Street and Falls Road from 2 to 10 P.M. and was open to the public without admission charges. Radio and television stations and newspapers were greatly interested in our display, and gave us not only spot announcements and notices, but also, in the week before the show, three television 'interviews-with-members' and two radio 'interviews'.

The visitors were most excited by the demonstrations given by the Guild's founder and president emeritus, Mr. James W. Anderson, of cabochon making on the simplest possible equipment. Mr. Tony Bonanno came with his faceting equipment and gave demonstrations throughout the day to rapt Baltimoreans who had never before thought this art could be practiced by anyone but a very few experts. And there was always a line waiting to see the fluorescent mineral collection displayed by Jack McWilliams, one of our younger members. Mrs. James McWilliams further beautified the exhibition with flowers artistically arranged in vases and bowls around the auditorium. For exhibitors who remained all day, soup, sandwiches, spaghetti and meat balls, baked beans, cake and coffee brought in by members, were served by Mr. Charles Scofield who has shown great talents as a chef as well as a gem cutter.

Work of the Guild has been displayed in our main library and in bank windows, etc., and, of course, has been shown in - and won top prizes of - the National and Eastern conventions, but this was Baltimore's first opport-

unity to see a true cross-section of the members' work and demonstrations of work actually being done. Baltimore's response was regarded as exceedingly encouraging.

Mrs. A. D. Emmart
Publicity Chairman
3551 Newland Road
Baltimore 18, Md.

South

Miami Mineral & Gem Society

The officers for 1955-
Pres. Mr. Albert B. Wilson
1776 N.W. 24th St.
Miami, Fla.

Vice-Pres. Mr. J. M. Stoinoff
2nd V. Pres. Mr. and Mrs. Aaron Spector
Sec-Treas. Mrs. T. E. Carpenter
330 NE. 51st Street
Miami, Fla.

The Convention here in October sparked a big increase in our membership. Most of our new members are already busy at some phase of lapidary work at the home or shops of our generous old members. And all of us looking forward to trips this summer to collect or trade.

Elena E. Carpenter, Sec.
330 N.E. 51st St.
Miami, Fla.

Fort Worth Mineral Club

The Fort Worth Mineral Club, held the annual election of officers for the coming year, February 4th, 1955.

Our new president is Mr. Jack Padgett - 3936 Bryce Street, Fort Worth, Texas
Secretary - Mrs. James R. Niendorf, 5808 Bertha Lane, Fort Worth II, Texas

The program was a group of color pictures of minerals made by Mr. Murphy of San Antonio, Texas.

Mrs. Ruby Renfro
2901 Bomar Ave.
Fort Worth 3, Texas

Mid-West

Cincinnati Mineral Society

The officers of the Cincinnati Mineral Society for the year 1955 are as follows:

President: John W. Pagnucco
130 Vermont Ave., Cincinnati 15, Ohio

Vice-President: Fred Keitel
Route 4, Harrison, Ohio

Secretary: Louise D. (Mrs. Grauman) Marks
3997 Beechwood Ave., Cincinnati 29, Ohio

Treasurer: Dr. Alex K. Presnell
3315 Queen City Ave., Cincinnati 38, Ohio

Chicago Rocks and Minerals Society

The ninth birthday of the Chicago Rocks and Minerals Society was celebrated by a party held on February 12th at Greenbrier Field House, Chicago, Ill.

Many members and guests braved the inclement weather to attend and were rewarded by a delightful color film showing the gathering of the Indian Tribes at Gallup, New Mexico, and their vivid costumes and ceremonial dances.

After the film, of course, coffee and birthday cake for all.

Central Illinois Rockhounds

A regular meeting of the Central Illinois Rockhounds was held Sunday February 6th, 1955, at 2 P.M. at the Y.W.C.A., 436 North Main Street, Decatur, Illinois.

Mr. Brice Kennedy talked on "I would like to interest you in my hobby". After the talk there was a question and answer period. We welcome the following new members:

Keith Marston Haien, 3589 East Fulton, Decatur, Illinois.

Russell G. Livengood, 244 North English, Springfield, Illinois.

Dates to remember:

April 30th—Science Field Trip, Mt. Sterling, Illinois

May 14th and 15th—Central Illinois Rockhound Exhibit Y.M.C.A. Decatur, Illinois

May 21st—Science Field Trip, Yorkville, Illinois

June 22-23-24—Exhibit Midwest Federation
Detroit Hotel, Detroit, Michigan
Helen Brundage, Secy.
141 E. Main St.
Decatur, Ill.

Des Moines Lapidary Society

The Des Moines Lapidary Society met at the Des Moines Art Center Sat, Feb. 19, at 7:30 P.M. It was a bad night but we had a wonderful turnout.

We had book reports including a report on *Rocks and Minerals*.

We also had talks on thomsonite and amethyst. A discussion on where to find them, how to cut, grind, sand and polish them, was most interesting.

Rough, cut and the finished stones were on display.

Table decorations were furnished by Dan Finch of Des Moines, Iowa.

The high-light of the evening was the ear-ring contest. We judged on workmanship and stone, but not the mountings. Bill Elder of Des Moines came first, and Ed. K. Brown came second. First prize winner received one year's subscription to his favorite rock hound magazine.

The meetings are held the third Saturday of each month at the Des Moines Art Center. The public is cordially invited.

Janet Doggett, Cor. Sec.,
950 - 65th St.
Des Moines, Iowa

Wichita Gem & Mineral Society

A. C. Carpenter of Ottawa, Kans., was the featured speaker at the annual winter party of the Wichita Gem & Mineral Society which took the place of the January meeting. Speaking on selenite, he declared the selenite found in Kansas rivalled or was better than that of any other state. He produced an exhibit of many types of selenite found in the state and told where the specimens could be found.

An astounding statement made by Mr. Carpenter was that he had evidence selenite crystals can be formed by nature in as short period as a couple of weeks. Iron pyrites and gypsum have a part in their formation. Many forms are found in Kansas ranging from diamond shape selenite crystals four inches long to those appearing like needles.

Mrs. Walter Broderson, president of the club, announced that the February field trip would consist of visits to the home of various members in Wichita to examine their exhibits.

The club is planning its second annual show for April.

Arch O'Bryant
Wichita Eagle
Wichita, Kans.

Rocky Mountains

Cheyenne Mineral & Gem Society

Kirby Olds was installed as the new president of the Cheyenne Mineral & Gem Society at the regular meeting held Fri. evening at the Carnegie Library. The other new officers installed were, Edw. Kopsa - V. Pres., R. J. Laughlin, Director at large; Mrs. Adam Wensky Recor. Sec. - Treas.; Mrs. R. J. Laughlin - Corres. Sec.

A sound and action film on growing crystals, borrowed from the telephone Co, was shown following the installation and business meeting.

Mr. and Mrs. R. J. Laughlin then introduced a new feature on rock study and identification. The club was divided into small groups and each group given a rough rock to study and then describe in such detail that the other groups could identify the rock from their description. After the identification the rock was then passed around to the other groups for additional description and closer inspection. The idea proved very educational and instructive, especially to the new members. A humorous note was added when some rock candy pebbles was passed around for identification and no one could identify it! Lots of guesses were made the most frequent being, gastrolithes!

There were 75 members and guests present.

Mrs. R. J. Laughlin, Corr.
Sec.
204 E. 3rd Ave.
Cheyenne, Wyo.

Mineralogical Society of Arizona

Sixty-eight members and 48 visitors at the Jan. 7 meeting of the Mineralogical Society of Arizona heard Basil De Shazo's talk, "Touring Alaska and Way Stations. Kodachromes of the Alpine Highway to Alaska showed brilliant vegetation and animal life of Alaska's colorful summer season with deep forests and high glaciers in the background. Two animals shown, characteristic of the country, were the land otter and moose. One striking picture showed the midnight sun on the shortest day of the year.

At the Jan. 21 meeting, Jackson L. Clark, State Mineralogist, Arizona Bureau of Mines, described to a full house the development of uranium discoveries in southeastern Arizona. "The small uranium boom started about 6 months ago," he said. "Prospectors and AEC men were so thick a person could hardly elbow his way through."

Until then no one knew there was any uranium in Arizona except in its portion of the Colorado Plateau.

"Yellow, green and black are the predominating colors to look for in uranium bearing minerals of this area," he explained. "Look on old dumps of other mines, as uranium occurs with other base metals and in pegmatites."

The uranium minerals of this section have been found in massive quartzite, kasolite, polycrase, dark purple fluorite, altered zircons and rare earth minerals. Uranium minerals found were uraninite, meta-torbenite and carnotite.

Mr. Jackson said that the office of the Bureau of Mines, which assists with problems of mineral identification free (except for mill tests) is no longer hidden, but is definitely on the map!

C. E. Vanhook brought his scintillation counter along, which is a new uranium detector that operates from a speeding car.

January minerals for special study were manganese and salt. Specimens were on exhibit. Harry Hill presented each person with cluster of salt crystals from Utah's Great Salt Lake.

The January field trip was well attended to the vicinity of Lake Pleasant where the members spread out on an agate hunt.

Ida Smith, Cor. Secy.
2010 West Jefferson
Phoenix, Arizona

Rocky Mountain Federation Show

The annual Show of the Rocky Mountain Federation of Mineralogical Societies will be held in conjunction with Wyoming State Mineral and Gem Show held June 16-19, 1955, in the Mountain View School, Rawlins, Wyoming.

Dealer Space is available at the rate of \$1.50 per lineal foot with a minimum of \$7.50. Non-Commercial Exhibits will be on a non-competitive basis. Space will be furnished. The Committee will appreciate advance information so space can be allotted and reserved. Exhibitors are urged to bring their own cases.

A limited number will be available.

Camping privileges will be available to those who wish these facilities.

Committee Chairmen are as follows:

Convention Chairmen—Mrs. T. M. Wood, 210 E. Walnut, Rawlins, Wyo.

General Manager—Ralph E. Platt, Saratoga, Wyo.

Commercial Exhibits—Mrs. Betty Fellows, 612-13th, Rawlins, Wyo.

Non-Commercial Exhibits—Mrs. George Fellows, 612-13th, Rawlins, Wyo.

Housing Committee—J. Y. Thompson, 1200 W. Spruce, Rawlins, Wyo.

Field Trips—G. A. Willis, 818 N. 13th, Rawlins, Wyo.

Programs Committee—Mrs. Leslie Bowser, Bairoil, Wyo.

Building & Camping—G. A. Willis, 818 N. 13th Rawlins, Wyo.

Grab Bags—Mrs. Bernice East, Box 158, Rawlins, Wyo.

Swap Table—Mrs. Effie Jaramille, 308 Jackson, Rawlins, Wyo.

The floor Show will end Saturday, 10:00 P.M., June 18, followed Sunday by field trips to various collecting areas around Rawlins and to the Jade fields.

One of the interesting areas which we hope to make available is to the famous "Diamond Hoax Areas". Various members have scouted libraries and records in order to gain more material concerning the area. One book written in the 1800's was found which gives the following information—"Two old prospectors salted a mesa in the "Rawlins Springs" area with precious stones purchased in Holland. Then proceeded to take interested parties blindfolded to the area where they were so convinced of great wealth that they were "fleeced" out of \$500,000.00. The trip was made by wagon and took 4 days. Such "dupes" included Horace Greeley, Baron Rothschilds, House of Tiffany in New York and the great mine expert and consulting engineer Henry Janin. The fraud was discovered later when a cook for a geological survey accidentally kicked a diamond from an ant hill which showed evidence of lapidary work. They also found diamonds, rubies, garnets, emeralds, amethysts and sapphires in the same area, which is an association impossible in nature.

West

The Los Angeles Lapidary Society

At the January meeting of the Los Angeles Lapidary Society, Charles Maples gave a very informative talk on Petrology - or - How Those Rocks Get That Way.

He discussed various igneous, sedimentary and metamorphic rocks with particular emphasis on the formation of geodes and nodules. The talk was amply illustrated with specimens from his own collection and those of other members.

Mr. Maples has spent many years studying rocks and was able to make very understandable to all of those present the long sequence of geologic occurrences which culminate in the formation of these various types of rocks.

Maxine Reams
Corresponding Secretary
6110 Rimpau Blvd.
Los Angeles 43, Calif.

Long Beach Mineral & Gem Society

The Long Beach Mineral and Gem Society will hold their Gem and Mineral Show April 30th from 10:00 A.M. till 10:00 P.M. and May 1st from 10:00 A.M. till 6:00 P.M.

At the California National Guard Hdq. at 854 East 7th Street in Long Beach, Calif. Adm. Free.

Coffee, home made cakes and pie, and cold drinks will be sold.

Brawley Gem and Mineral Society

The annual 1955 Rock Show & Trade Days of the Brawley Gem & Mineral Society will be held in our beautiful Plaza Park under shade, surrounding the patio of the City Hall on April 29th, 30th and May 1st, Brawley, Calif.

There will be rock swapping (bring along your duplicates), also rock selling both amateur and commercial. Choice of hotel, motel trailer or camping if you wish. There will be rock displays, show tables will be provided, however you must bring your own table covers.

On Sunday, May 1st, there will be a guided rock hunt in famous and historic old Mexico. Don't miss this.

Prizes will be given for the person who brings rocks the longest distance.

For table space and further information write to Roy Rand, 176 G Street, Brawley, California.

The 1955 Rock Show & Trade Days is being sponsored by the Brawley Gem & Mineral Society and the Brawley Chamber of Commerce.

Edythe H. Easton
(Secretary)

Notice of Spring Rock Hunt

At the special invitation of a number of Oregon rockhounds, the Spring Rock Hunt of the All Rockhounds Pow Wow Club of America, Inc., will be held at Glass Buttes, Ore., May 28-29-30.

Signs directing to the camp site will be posted west of and near milepost 82.

This will be a dry camp and if wind is blowing, no outside fires will be permitted. No guns, explosives or intoxicating liquors permitted at camp site.

Competent guides will lead parties to the hunting ground. Several kinds of obsidian are to be found in this area.

This hunt is for Pow Wow members only, however membership will be accepted at the camp site Dues are 50c per year. This includes Spring and Fall rock hunts and the main meeting which is held on the Fourth of July. Notices are sent to members.

The Pow Wow creed of good conduct for rockhounds is enforced at Pow Wow hunts at all times.

Barbara Blood, Sec.
1935 Taft Ave.
Bremerton, Wash.

Del Norte Rockhounds, Inc.

The Del Norte Rockhounds Inc. had a wonderful field trip up into southern Oregon on Feb. 20, 1955. Beautiful weather and a most congenial crowd made it so.

Among the most popular couple was Mr. and Mrs. Art Dennison. Besides being a most friendly couple they had a two wheel trailer which they brought with them. When the group met for the lunch hour they raised a lid on said trailer and displayed a complete kitchen, well stocked with provisions. Then a two plate burner was quickly lit and two coffee pots started working, which was sampled by nearly everybody. It sure was delicious coffee. That's not all Mrs. Dennison provided. She mixed up a tasty salad and gave all who would partake a generous helping. Both of the Dennisons are truly rockhounds. Which means, wonderful people, generous to all they meet.

I can say for the rest who were present, they too are true rockhounds. Not a discordant note among the group. Among those present were as follows, Mr. and Mrs. Howard Wolf, Mr. Wolf is our present President. It is agreed by all that were there that Mrs. Wolf was the hardest working rockhound they ever met. At no time, when Mr. Wolf stopped the car, but what his better half would bounce out, get to a stooped position, with eyes directed to the ground, and in less than a minute she would pick up one or more rocks and would examine them closely. So, it went throughout the day, and, it was said by some that on the way homeward when the car stopped she alighted with a flash light to repeat her performance of the day.

Then there were Mr. and Mrs. Poirier & son Eudorse. These people are new to our group but the group are happy to have them and hope to keep them with us. They are true rockhounds also.

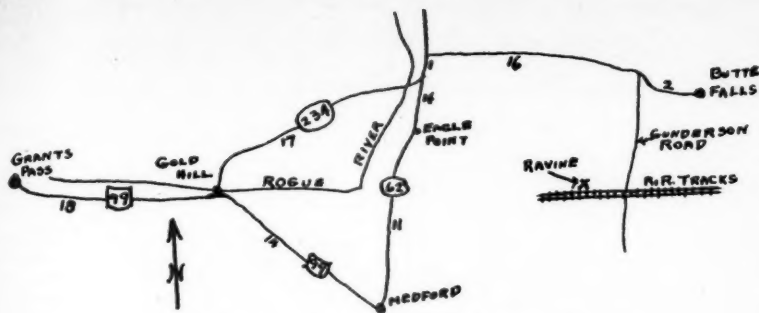
Mr. and Mrs. John Weiler and son Jerry (Old Timers in our club and we hope they will continue with us.)

Mr. and Mrs. Frank Presnell. Same as above goes for this fine couple. Mrs. Ines Merrill—Mrs. Margaret Gaines, Mr. and Mrs. N. N. Sondergard, Wm C. Chandler.

In writing this account of the people present it is hoped that none have been slighted but for fear there may be something left out that should have been included will add, they are all lovely, pleasant rockhounds.

Will enclose a map describing the route taken on this trip Map is not to scale but directions will take care of that.

Specimens found were, agatized and jasperized wood, nodules of chaledony and chips of agate some of the agate chips will make beau-



The agate-jasper locality in ravine near Butte Falls, Ore.

tiful settings for it is solid and good 'carnelian (some with brownish clouds or dark color). Some nice jasper nodules came from the streaks of white or tan sediment along the sides of draws or creek bottoms. The territory seemed to be mostly lava capped. Some amygdaloid was found in boulders. The jasper was solid with red, black and yellowish, green colors prevailing. Some pieces of solid green jasper were found which may be the so called Oregon Jade for it was of good color. Not much red in the jasper but what was present was bright red and opaque while some was translucent enough to make it desirable for settings.

The prevailing color of the petrified wood was black and greyish with some brownish streaks. Occasionally some were marked with bright red which was above average for beauty, and solid. Less fractures than most specimens found around the west.

Description of map and route taken on trip.

Going north from Medford, Oregon, on highway 62 for 15 miles or to junction of 234 and 62 thence on for about one mile farther north on 62 to paved road on right that leads to Butte Falls. Follow that road for about 16

miles to sign post which reads: 2 miles to Butte Falls. Turn right or south to R. R. tracks. The distance to these tracks is about 6 miles but the exact mileage to the tracks is not known by writer but the R. R. tracks are a definite ending for your car. Park car near railroad and from there, on foot, follow tracks west to large ravine. There search sides and bottom of this ravine and specimens described will be found.

It will be noticed there is a creek that crosses the road where your cars are parked but it is too brushy and hard traveling, as the writer learned by experience, anyway there is not much to be found until several branches some into this main stream and all the material may be found by following above instructions, without following this creek.

If one comes from Grants Pass follow 99 east 18 miles to Gold Hill then take Highway 234 17 miles to junction of 62, from there turn left for the mile as above mentioned in writing about trip from Medford.

Wm. C. Chandler
1465 Pacific Ave.
Crescent City, Calif.

LOOKING BACK TWENTY-FIVE YEARS AGO

in Rocks & Minerals March 1930, Issue

Little Journeys, by Albert C. Bates, pp. 12-13. This is the continuation of an interesting series of articles on dealers and collectors that flourished 40 years ago.

Museums of the World (American Museum of Natural History, New York, N.Y.), pp. 14-15.

Gem Department, Conducted by Gilbert Hart, pp. 22-23. Opaque gems were featured.

Compilation of gem names, by Gilbert Hart, pp. 26-27. A continuation of the longest list of gem names ever printed up to 1929.

Publications Recently Received

Pearl — How to know the minerals & rocks

By Richard M. Pearl, Assistant Professor of Geology at Colorado College, Colorado Springs, Colo., 192 pages, illustrated, $5\frac{1}{4} \times 8\frac{1}{4}$, price \$3.50. Published by McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 36, N.Y.

"A mineral or rock collection is as near as your backyard and as distant as the far corners of the world," says Richard Pearl in his book **HOW TO KNOW THE MINERALS AND ROCKS** which McGraw-Hill published on February 9. "Specimens of some members of the mineral kingdom may be secured with little trouble and less cost, while others require the initiative of a globe-trotter and the purse of a merchant prince. Minerals are to be found in garden soil, on road cuts and building excavations, under cliffs and in stream beds, on beaches and sand dunes, in quarries and mines. Heaps of waste rock called *dumps* are a prolific source of specimens. Everywhere around us, in fact, minerals are present."

In every state of the union, amateur "rock-hounds" find specimens of interesting minerals with which to start a collection. Mineral societies have sprung up all over America. Enthusiastic collectors attend regular meetings, go on field trips, hold exhibitions and annual conventions. Moreover, mineral collecting as a hobby has many advantages to recommend it. It is carried on primarily out of doors where the wonders of nature are at her best. "From a study of minerals," says Prof. Pearl, "we find out why cliffs wear down and how soils originate, why the walls of the Grand Canyon show such vivid hues, why the sands of the Florida beach are so varied in size and shape and color."

Prof. Pearl has written his book for all those beginners of mineral collecting and for the more advanced collector. It is a practical field guide to more than 125 of the most important minerals and rocks and features basic methods by which any collector can quickly and easily identify specimens, both common and rare. The most unique feature of Prof. Pearl's guide are Four Keys to Recognizing Rocks and Seven Keys to Recognizing Minerals. "Even many advanced collectors of minerals," says Prof. Pearl, "are unable to recognize by name the commonest rocks, because of their diverse appearance and lack of definite tests for them." His keys have been devised to make it easy to identify the chief types by a simple, systematic procedure. No special skill is needed to make these tests and no equipment required other than a pocket knife, a common magnet, a piece of broken porcelain, a

piece of glass, a copper coin, a piece of quartz, and some vinegar.

Besides these keys, the book contains descriptions of each mineral or rock accompanied by a drawing which brings out clearly the typical appearance and characteristics by which it can be clearly recognized. There are also photographs in full color of forty-six minerals. Other special features include tips on collecting, handling, cleaning, preserving, and displaying the mineral collection; a survey of how rocks and minerals are formed; informative background material on the historical background and development of various specimens.

Reinfeld—Treasures of the earth.

By Fred Reinfeld, 156 pages, illustrated, $6\frac{3}{4} \times 10$. \$2.95. Published by Sterling Publishing Co., 215 E. 37th St., New York 16, N. Y. (Nov 1954).

A brand new book has recently made its appearance. It is both an instructive and easy reading publication for young people and adults, written in simple, vivid language that gives the exciting and fascinating highlights of geology and associated sciences of mineralogy, petrology, oceanography, paleontology, gemmology, and meteorology.

In telling the wonderful story of the treasures contained in the earth, the author includes many ideas and hints for collecting rocks and minerals. He describes; equipment and methods used for determining the age of rocks and other substances.

theories of the origin of the earth
dinosaurs
mountains and volcanoes
the effects of erosion
coal deposits
oil discoveries
diamond mines
caverns
glaciers
gold and precious stones
radium

In fact, he gives a complete introduction to an absorbing subject.

The many photographs, with their explanatory captions, make crystal clear the entire range of minerals from the tiniest particle of sand to the largest mountain.

The author is noted for his ability to make exciting reading of the most difficult subjects, from chess, numismatics and philately to history and psychology, and has performed a fine service here in making geology clear and fascinating for all beginners.

Parker—Die Mineralfunde der Schweizer Alpen

By Prof. Dr. Robert L. Parker, 311 pages, 129 figures, 33 plates including one folded map showing mineral localities, 7 x 9, price \$4.60 (Swissfrancs). Published by Wepf & Co., Basle, Switzerland.

Parker's "Mineral Localities of the Swiss Alps" is all in German.

For those who can read German and who are especially interested in Swiss minerals, Parker's book is to be recommended. Though the reviewer cannot read German, it is easily to spot on the map localities for such minerals as adularia, calcite, fluorite, hematite, dolomite, siderite, muscovite, amethyst, axinite titanite, and many others.

Dake—Popular Prospecting

By Dr. H. C. Dake, 80 pages, illustrated, 6 x 9 1/4, \$2.00. Published by the Mineralogist Publishing Co., 329 S. E. 32nd Ave., Portland 13, Oregon

Dr. Dake, the popular editor of the *Mineralogist Magazine*, has done it again—he has put out another new book. *Popular Prospecting* is a field guide for the prospector and the uranium hunter. It is written in simple language, full of valuable, timely information and with its many fine illustrations should prove to be the

ideal guide for anyone interested in prospecting for minerals: We predict Dr. Dake's new book will be warmly welcomed by the public in general, and uranium-minded people in particular.

Morrill—Maine mines and mineral locations

By Philip Morrill, 43 pages, including 7 maps showing mineral localities, 5 1/2 x 8 1/2, price \$1.00. For sale only through John Dillingham, Naples, Maine.

The text is divided into localities which are listed alphabetically beginning with Abbott and ending with York County. The 7 maps are especially good as they spot most if not all the localities listed.

This is a very valuable publication for all collectors and especially for those interested in Maine minerals. We recommend it highly.

Minerals Unlimited issue new price list

Minerals Unlimited, 1724 University Ave., Berkeley, Calif., recently acquired the mineral collection of the noted British collector and mineralogist, W. F. Davidson. The collection is particularly rich in superb barites, calcites, fluorites and Cornish minerals—6 pages are used to list some of the minerals.

Goudey issues new catalog

Hatfield Goudey, Gabbs, Nev., has just issued a new catalog covering micromount and thumbnail specimens and accessories. It is a 12 page publication listing specimens alphabetically. In addition, 2 pages are devoted to mounting technique.

Tumble Polished Gems

We feature Chrysocolla and highly polished Mexican Agate Slices.

Irregular shaped highly polished Chrysocolla, Carnelian and Mexican Agate. Special trial order 1/2 lb.—\$4.50, 1 lb.—\$9.00 — about 100 to 1 lb.

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